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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

The League of Nations.—The tercentenary of the landing of the Pilgrims at Plymouth has been celebrated with pagantry and ceremony. The true beginnings of our government may be said to date from this period, despite the settlement at Jamestown in 1607 and the visitation of Hendrick Hudson in 1609. The development of medicine during this period of time has been rapid, particularly during the last fifty years, tho the foundations of its progress antedated the landing of the Pilgrims.

Among the early regulations in this country there were acts regulating medical practice in the establishment of fee schedules. These conditions arose from the fact that there was no actual system of medical training beyond that arising from an apprentice and the determination of payment was based upon opinion concerning the competence of those offering themselves as capable of bleeding, cupping, preparing and supplying medicaments.

The seventeenth century was filled with "Devouring, Famine, Plague and War" and the status of physicians in European countries was high, because of their devotion to duty and their conscientiousness in fighting the pests which were decimating the nations.

At this beginning of the year 1921, there is a certain similarity to the conditions of three hundred years ago, despite the ad-

vance in civilization, and regardless of the improvement in social and economic conditions. War, famine and epidemics again devastate large sections of the universe. The cessation of the world struggle, which cost 10,000,000 lives in battle and 40,000,000 more thru its indirect, vicious effects, has left a long, gloomy trail of tragedy winding in and out of lands where the turbulence of the peasants and the hunger of royalty find a common emotional outlet in their plaintive pleadings for sustenance, relief and re-establishment. It is difficult for thinking people to voice the sentiment, "A Happy New Year," without a consciousness that at best it is but a wish whose fulfilment is doubtful for masses of humanity struggling for a bare and chilled existence. From the Atlantic to the Pacific the eastern continent is grappling in the toils of pestilence and poverty. The grim spectre of stalking death is within the vision of millions of Americans who have taken their stock and origin from foreign lands.

America, strong in its democratic integrity, possesses countless reflections of European suffering. The United States, in truth, is a federated League of Nations working out its salvations thru a harmonization of their common interests, and a union of their ideals thru the machinery of a republican form of government. The American idea was born of the fusion of elements whose common bond was an ag-

gressive belief in the virtue and benefits of freedom and real liberty.

It would, indeed, be a Happy New Year were it possible to realize a great League of Nations organized on the basis of the common points of mutual interests that are involved in the improvement of their respective peoples. The threatening scourges of cholera, typhus, plague, influenza and syphilis are not to be regarded as diseases of local interest, but of world-wide importance. A national attack upon any of these is inadequate to safeguard the world. For the most effective campaign against such parasitic diseases, an international union is essential. It is imperative that in this League of Nations for protecting the health of the world, the foremost nations of the world shall occupy the positions of paramount leadership. The knowledge, wealth, industry, brains and brawn of the United States possess an obligation to rally to the defense of all other nations, but despite, and because of, the cessation of the war, they find themselves handicapped in aiding and preserving the surviving population.

The diseases incident to malnutrition and dependent upon international poverty are not respectors of nationality, creed, color or previous conditions of servitude. Proletarians, bourgeoisie aristocrats and democrats, monarchists and anarchists, royalists and beggars, queens and maids are, alike, subjects to the inroads of debilitating, if not death-dealing, conditions which exist thruout the world. The wealthy, sanitary and unrationed United States "views with alarm," but takes no action that will effectively check the disaster that impends.

Unless a League of Nations grapples

with these prevailing problems, 1921 will not be a Happy New Year. It will be but a repetition of the selfish nationalistic principles interpreted in terms of commercial aggrandizement, and reflected in sermons, books and articles dealing with the horrors that abound. The fullest measure of happiness, personal or international, must possess an altruistic force which reaches out for the salvation and betterment of others less fortunate. Nations, as men, object to charity when what they seek is justice and opportunity. The non-combatants of the world are forced to suffer from agencies liberated thru a conflict that cannot be overcome without a large understanding of the brotherhood of man.

In recognizing the problems of immigration in meeting the difficulties besetting our nation by reason of unemployment, the stresses and strains incident to industrial and economic re-adjustments, in estimating the health problems of the western continent, it becomes apparent that due thought and consideration must be given to the sanitary, economic and social status of the transatlantic nations. Our participation in a world war has not made it easy for us to withdraw from participation in the fight for existence of those with whom and against whom we bore arms. If we fought for the democratization of the world and for a peace that would end war, it is incumbent upon us to fulfil the implications of our expressed idealistic attitude. It requires some organization to enable the nations, into whose fortunes we have entered, to re-establish themselves with security against those foes more powerful and less merciful than the projectors of poison gasses, flames, shells and bullets. As there were leagues of nations in war, so there must be leagues of nations in peace, to fight

the common foes of mankind. A League of Nations for international health is fundamental.

The desolations of war are inherent in its frightfulness. The iniquitous calamities of peace are escapable, providing that the same effort at cooperation that marked the World War is continued and constructively applied to securing conditions favorable to health at the present time. Food distributions are valuable in lessening suffering from hunger. While they may slightly increase the resistance of those sorely undernourished, such relief fails to stem the tide of engulfing disaster or to overcome the shortages of supplies essential for strengthening national health. The efforts of an International Red Cross Movement are promising, but lack the power and direction that would develop from the accumulated resources of a League of Nations determined to handle the problems of the world on the basis of an international friendliness and co-administration.

The greetings of this season should reflect guarantees, sympathy and understanding. From the standpoint of the advance of civilization, in accord with modern medical knowledge, we extend our greetings to the world at large with a deep-felt hope that the ensuing year may be made a happy one thru the restoration of international confidence and international cooperation. Thru the medium of a League of Nations banded together in the interests of human welfare and human advance, may the peoples of the world find strength, comfort and realized promises during 1921.

Daylight Saving.—Now that legislatures are re-assembling, efforts will be made

to inaugurate new legislation and to repeal such enactments as may be deemed undesirable, ineffective or unwarranted. There can be no question that with the mass of legislation that is yearly enacted, much of it is petty, some stupid, some partisan and some purely for political purposes. The great bulk of it, however, is designed to advance the interests of all the citizens.

In states, as a whole, with the admixture of industrial and agricultural populations, it is often impossible to pass bills which will apply with equal comfort to both groups of the population. This is particularly well represented in the Daylight Saving law, whose main opposition arises from rural sections. During the war it came into being in this country as a means of coal saving, as well as an attempt to safeguard the health of industrial workers. After the cessation of active war conditions, the law was repealed in many states and cities, tho it still continued to remain upon the statutes in various sections of the country. An attempt to repeal the Daylight Saving act in New York State failed during 1920, but an attempt is again being made to abolish it during 1921.

There may be certain objections to advancing the clock one hour during the summer period in agricultural sections, but past experience would lead one to believe that these are not serious or insuperable. It is doubtful also whether these objections are not offset by the general advantages accruing to the rural population and which are shared by their co-workers in urban sections.

It would be bromidic for a medical journal to stress the value of sunlight and fresh air as a means of building up bodily resistance to disease. It scarcely appears

necessary to emphasize the advantages which come from increasing recreational opportunities during the hours before twilight. Certainly every opportunity for healthful outdoor life should be seized as a communal advantage, and the Daylight Saving program possesses this attribute to a notable extent. It is to be hoped that the effort to repeal the Daylight Saving bill will be unsuccessful, and that the population of the State of New York will not be denied the valuable health-giving advantages of greater freedom during the hours when sunlight is available to warm the hearts and minds of men.

The National Milk Commission.—The report of the National Commission Milk Standards of the New York Milk Committee, published in *Public Health Reports*, December 10, 1920, calls attention to the necessity of administering orange juice and tomato juice or other antiscorbutics in the diet of infants, particularly to those artificially fed. The differences in fresh, unheated milk, depending upon the nature of the diet of the mother or the cow, make it imperative to supplement milk in all forms in order to be certain that the infant receives some substances rich in antiscorbutic properties. This procedure becomes more necessary when heated milk is used, because even milk that only has been pasteurized has lost, in part, its protective action against scurvy.

The Commission expresses its conviction of the economic, social and hygienic advantages of a further introduction of dried milk. It demands, however, that sanitary requirements for dried and re-made milk, as far as possible be the same as those de-

manded for the liquid milk of light grade. It suggests, therefore, that dried milk be labeled to show the quality of the milk before it was dried, the approximate time and temperature of heating and the fact of the presence or absence of any additional substance. Similarly, it recommends that milk powders should be labeled to indicate whether they represent whole milk, skimmed or partly skimmed. The necessity of these provisions is obvious as the general public is likely to regard all milk powders as essentially the same despite their nutritive differences and sanitary variations. From the standpoint of vitamin content, the preponderance of evidence would indicate that dried milk is in no wise inferior to pasteurized milk and, therefore, if continued for prolonged periods an antiscorbutic food or substance should be employed during its administration.

The tremendous part that milk plays in the dietary of infants and children justifies the annual meetings of the National Commission on Milk Standards and makes its reports and recommendations especially welcome in view of the high scientific achievements of the members constituting it. No service to the community as a whole has been of greater significance in raising the standards of milk production and protection than the numerous reports issued under its sanction. It is equally significant that it has been part of its practice to issue recommendations only when they represent the unanimous opinion of the members of the Commission. Thus, disputed points of view are thoroly threshed out in the light of experience and experiment until there is an agreement upon facts. Progress reports are not issued as conclusions that might mislead the public. Such action, of course, does not necessarily mean finality

of opinion, because new discoveries may invalidate previous conclusions.

The annual meeting of the Commission, because of its scientific spirit, the integrity of its members, and its group honesty of opinion, has established it as one of the most reliable and dependable sources of judgment and information upon the numerous problems relating to milk and milk products. Its contribution to the practical solution of rural and municipal regulation of milk supplies bears witness to the value of its services and the importance of its sane leadership. As a National Commission it has functioned successfully even though without power to issue mandates or to coerce food administrators. Its strength lies in its membership and the vital nature of the subject with which it is concerned in the interests of public health and particularly infant welfare.

Problems in Medical Progress.—The entire report of the *Cleveland Hospital and Health Survey*, to which reference was made in AMERICAN MEDICINE, December, 1920, has appeared. Each small volume is filled with highly informative and suggestive material of general and special interest to those interested in public health administration, and the methods of determining facts concerning communities upon which to base constructive operations for the conservation and protection of communal health.

In as much as rigid standardization of methods of treatment for community ailments is undesirable, the diagnosis of Cleveland's ills does not afford a complete basis for undertaking to cure the defects of other communities. There are certain fundamen-

tal conditions concerning curative and preventive medicine, however, which should obtain throughout the country. In this connection Part Eight, which deals with the Education and Practice in Medicine, Dentistry and Pharmacy, is especially valuable.

Cleveland boasts of a Class A medical institution in Western Reserve University, which is responsible for the preparation, the guidance and the inspiration of physicians, dentists and pharmacists. This creates a larger responsibility for medical standards in Cleveland than would exist naturally in cities not thus provided with educational resources in this direction. One criticism of this institution merits attention, because it is undoubtedly applicable to many other institutions where the faculty and trustees do not meet upon a satisfactory basis.

"Little exact knowledge was found to be possessed concerning many of the important problems of medical and dental education by those in responsible positions as trustees and executives."

Similarly, other medical colleges may take to heart the implied suggestion concerning the curriculum of this institution. "Systematic instruction in public health problems and methods is now an obligation of every medical school, which can no longer be escaped on the plea of an overcrowded curriculum." It is important for medical schools to realize their responsibility to their students that they may give them adequate training to serve as *quasi* health officers, as well as private practitioners. With the growth of public medicine there is reason for the introduction of industrial hygiene, and an elaboration of the work in connection with psychiatry. In the form of instruction it is noteworthy that the types of medicosocial activity at

present receiving greatest attention are not given much consideration in the general plan of training medical students in this particular institution, but this difficulty is less marked in many other of the Class A medical institutions.

The report calls attention to the fact that practically 29.4 per cent. of all the practicing physicians of Cleveland "control the opportunities of education and personal advancement afforded by 80 per cent. of the hospital beds of the city." According to Dr. Haven Emerson, who wrote the report, "In Boston about 42 per cent. of the practicing physicians enjoy hospital opportunities. In New York it was learned from a recent study that 51 per cent. of the registered physicians have hospital or dispensary affiliations (12.6 per cent. only dispensary affiliations, 12.8 per cent. both hospital and dispensary affiliations and 26.2 per cent. only hospital affiliations)." This, obviously, brings up the question of opened or closed hospitals as agencies in promoting the welfare of the community and in advancing the standards of the medical profession. It is obvious that under a closed system recent graduates who represent the best products of present-day medical teaching should be given an opportunity to utilize their enthusiasms and interests in connection with hospital and dispensary service. Their capabilities should not be retarded, nor their development handicapped by the feeling that hospitals are controlled by a small group of men in the community who utilize their affiliations for personal advancement, commercial benefit and an enhanced reputation. After all, hospital and dispensary services are designed to benefit the community and should not be considered as the property of the attending staff nor

established for their particular benefit. The larger the number of physicians utilizing hospitals and dispensaries the greater safety there is for the community, and the more numerous are the opportunities for raising the standards of private medical practice thruout the section served by the particular institution.

This fact of control of opportunities is undoubtedly responsible for a lack of harmony among physicians in many cities and districts. Only thru the recognition of a just distribution of all opportunities and the generous support, encouragement and advancement of young physicians by their seniors will bring about that mutual trust and confidence which is so essential for the advancement of the ideals of the medical profession. The need of developing among recent graduates fields of activity for which they have received the training that was not available for their elders in medicine is patent, and every effort should be made to take advantage of the ambitious willingness of young physicians to participate in advancing the technic of medical practice and in attempting research work that may be of benefit to particular institutions or, indeed, to humanity as a whole.

The general tone of the pamphlet dealing with education is constructive and free from harsh criticisms. All recommendations made are based upon adequate data, and are born of a broad conception of medical education. It recognizes the relations of trustees, teachers, hospital affiliations, departmentalization, clinical research and specialized phases of modern medicine. The reading of this report, together with the remaining ten numbers, will give an excellent idea of the purpose and value of health surveys as a means of improving all phases of private and public agencies and insti-

tutions involved in safeguarding public health.

Freudian Fraud.—Among the resolutions adopted by the All-American Conference on Venereal Diseases, held in Washington, D. C., December 6-11, was the following statement:

"Resolved that: Altho there is danger that a superficial and erroneous interpretation of the Freudian psychology in regard to the repression of the sex instinct may be detrimental to the successful development of the program for the control of venereal disease, a more thorough, complete and scientific interpretation, however, tends to aid such a program in that it places the emphasis upon the practical means for guiding the sex instinct into social usefulness and constructive activities."

The importance of this resolution lies not merely in its timeliness, but in its recognition of an inherent danger of the Freudian psychology as very generally interpreted.

The resolution recognizes that much of what parades as true Freudian psychology is superficially and erroneously interpreted. It is unfortunate that at the present time modern psychology has been adopted as a fad by large groups of so-called intellectuals almost entirely lacking in either the scientific preparation or the educational background for discriminating between fact and fallacy. Too many individuals who perchance have felt the necessity of submitting to psychoanalysis, regard themselves as competent to practice it and, furthermore, offer themselves to the general public as thoroly capable psychologists of the dynamic Freudian school. Books dealing with Freudian psychology have been written by numerous similar individuals of variable literary skill, who appreciate the

commercial value of such volumes at the moment, or seek relief from a cerebral priapism.

Writing in a pseudoscientific and mystical vein they expose their lack of psychological perspective and their superficial acquaintanceship with the valuable contributions that have been made by Freud, Jung, Adler and others of this group. Sensational volumes dealing with education, hygiene and ethics in terms of erotic symbolism, and many books on the application of psychology to industry, art, literature and biography have followed rapidly so that a certain uncertain group of the population is arriving at the saturation point in terms of sex psychology as related to instinct, sentiments, habits, vocation, religion and what not.

No objection can be urged against the scientific elucidation of all psychological theories in so far as they are accurate expositions and reliable interpretations. Unfortunately, more stress has been placed upon the inherent hazards of repressing the sex instinct into useful service. The communal dangers that arise from the release of the sex instinct from normal control are of immense importance. In the program for controlling venereal diseases it is obvious that any form of psychology that countenances the individualistic conception of emotional unrestraint is pragmatically unsound and contrary to public policy. The advocacy of sexual freedom on the physical plane is opposed to the best interests of society, and is certainly detrimental to any program that seeks to lessen the disease problems that arise from promiscuous sex relations.

The sound thinker recognizing the influence of the herd instinct appreciates the importance of sublimation as a useful fac-

tor in preserving the group. Violations of the rules and regulations, promising the greatest benefits to the mass, carry with them a varying degree of punishment. In the sexual sphere, however, venereal disease does not merely punish the individual, but penalizes the race, and all doctrines which tend to promote individual freedom in sexual activity threaten the integrity, health and progress of society.

Those who misinterpret Freudian psychology are distinctly antagonistic to the welfare of the community. Their pernicious views, eagerly sought and acclaimed by the unthinking, call for the rational opposition of the scientific and moral elements of the community. The disciples are seeking to out-Freud Freud, and in this process constitute a menace.

It is time that the general public received a warning against the misstatements, false interpretations and degenerate ideas which tend to reduce many honest persons to the level of phallus worshipers. The problem is more serious than is generally recognized, and to no small extent is responsible to some degree for the moral upheaval which is evident in the adolescent generation. The resolution, suggesting the dangers in Freudian psychology, is adequately worded to make clear the idea requiring most emphasis. Social usefulness and personal adequacy develop thru the sublimation of instincts and not thru the unleashing of primitive impulses for personal gratifications.

Popular Health Letters.—The necessity for education as part of every health-conserving program has been adequately emphasized. There has been a great need, however, for the development of a type of literature that would actually serve the

public. Too much stress, as a rule, has been placed upon the individual disease problems with a view to developing a personal interest of individuals in their specific complaints or symptoms. As a matter of fact, comparatively few organized efforts have been made to arouse public interest in general health, and to familiarize the reading public with the methods and purposes of health administration with a view to eliciting their personal cooperation thru the practice of what is popularly known as personal hygiene.

The Framingham experiment has been productive of a most excellent compilation of health letters which have appeared in the *Framingham Evening News* every Saturday night for the last three years (Framingham Monograph No. 8). As properly indicated in the introduction, "Educational work must aim at the promotion of public hygiene by community action, and at the encouragement of personal hygiene by individual action." With this aim, a practical educational program was worked out, laying stress upon the necessity and value of thoro, regular, annual, medical examinations, supplemented by the advice to take advantage of all the facilities afforded by the community. In order to test the success of the educational program, recently seven or eight hundred individuals were canvassed and it was ascertained that 29 per cent. of them, without any specific urging, had consulted their own physicians during the previous six months "for advice with reference to hygiene and its prevention and for a medical or health examination." This is indicative of a fair degree of success of the educational campaign.

While the Framingham experiment primarily was designed as a demonstration of the ability of a community to attack

the problems of tuberculosis, it was early recognized that this involved a complete program for raising health standards in the community. The prevention of tuberculosis is not an isolated problem, but involves a complete program for protecting public health. The educational material, therefore, was designed to cover not merely tuberculosis, but the hygiene of childhood and of the worker, the especial phases of food work; seasons were adequately considered, and due attention was paid to special diseases that lower communal vitality. The simplicity of the articles, their directness, variety in presentation and optimism, together with their scientific accuracy and logical development, make them a most acceptable pattern for those engaged in public health education. There is no evidence of writing down to a lower mental level of readers, nor is there evidence of pedantry in discussion. The series published indicates that there has been a careful adaptation of subject matter and method of presentation to the community of Framingham.

As evidence of a constructive and systematic effort at health education, the health letters merit commendation and should prove suggestive to the writers of popular medical stories for newspaper service. There has been so little work of this type developed in an orderly manner, with a unity of purpose and a more or less fixed group of readers, that it is desirable that the subject matter prepared and published be carefully considered by all who contemplate advancing health thru publishing for educational propaganda.

The Prevention of Diabetes.—An abnormal appetite and thirst are characteristic

symptoms of diabetes mellitus. Evidence is accumulating to indicate that the same conditions are probably pronounced factors in its causation. E. P. Joslin, in discussing "The Prevention of Diabetes Mellitus", *Journal of the American Medical Association* (January 8, 1921), indicates that the prevention of obesity would probably result in a marked lessening of the incidence of diabetes. The association of obesity and diabetes has been recognized for many years, and the fact that there are probably more than half a million diabetics in the United States would suggest the opportunity for acquiring information leading to a more intelligent appreciation of this relation.

Joslin has made a study of one thousand successive cases of diabetes, paying particular attention to the items of age, weight and height at the time of the incidence of the disease. His published table shows that "among 1,000 diabetic persons there was no instance in which diabetes occurred when the maximum weight was 31 or more per cent. below the normal zone, whereas there were 273 persons who developed the disease among those who were 30 or more per cent. above it." Furthermore, in his series with persons who are 21 or more per cent. overweight, diabetes occurred 79 times as frequently as when in the corresponding degree of underweight. Among the entire number, the maximum weights of only 10 per cent. were below the standard weight zone, which varied from five pounds below to five pounds above the average weight for height and age, while 15 per cent. came in that zone and 75 per cent. were above it.

In Joslin's words, "Diabetes, therefore, is largely a penalty of obesity and the greater the obesity, the more likely is Nature to enforce it." He formulates this

tentative diabetic law: "It is rare for diabetes to develop in an individual above the age of 20 years who is habitually underweight, and when it does so develop the case will usually be found to be either extremely severe, extremely mild, or associated with a marked hereditary taint or degenerative stigmas."

A particularly valuable part of his article lies in the consideration of obesity as a cause in connection with other factors often deemed of importance in the etiology of the disease. He raises many questions of relative causality in which one must acknowledge preponderance of evidence in favor of frank fatness or overweight as of primary importance.

His experience and studies point out effectively that overweight constitutes a true disposition to diabetes. Accepting this as true, the prevention of diabetes must concern itself with efforts to keep the waistline of the average dimension. Overeating is to be considered as a diabetic hazard, and its importance should be recognized by physicians who, in turn, should emphasize the fact to patients who do not understand that fatness possesses more than mechanical disabilities. A general reduction in the number of overweights in the country would lessen decidedly the incidence of diabetes.

A second factor in the prevention of diabetes depends upon the early recognition of sugar in the urine. Frequent or routine urinary examinations are indispensable for the prompt detection of many forms of disease whose early evidence is found primarily in the urine. The accidental discovery of Bright's disease or diabetes, and the frequency and increase of these diseases make it imperative for self-protection that examination of the urine become an annual affair and constitute a part of a routine medical examination.

In the prevention of diabetes, however, especial stress must be placed upon careful eating and drinking with a view to limiting the overweight of the body. For diagnostic purposes the frequent examination of urine is imperative particularly among those who, despite their efforts, roll up and amass superfluous fat. Above the age of forty, overweight, especially over 10 per cent., must be regarded as a distinct liability regardless of its alleged advantages during youth. Every fat person is not a candidate for diabetes, but diabetes finds its victims particularly in the overweight group of the community. The efforts at prevention, therefore, must be particularly centered upon this part of the population, as the most likely potential sufferers from diabetes mellitus.

THE COUNTRY DOCTOR.

You knew him by his muddy shoes,
His clothes of last year's style;
The weary look about him,
The sweetness of his smile.

You knew him when the school let out,
Seeing the children flock
To get his cheery greeting,
And shout their "Hello, Doc!"

You knew him, too, at midnight,
When he rode thru' sleet and rain,
Wading thru' mud and water,
To reach your bed of pain.

You knew in the dawning,
Still sitting by your bed
In damp clothes—Oh, so patient,
His hand upon your head.

He was never in a hurry,
When kindly word could cheer;
The little jokes he saved for you
Are memories, now, dear.

He didn't fall in Flanders Field,
Where crimson poppies grew;
He wore himself out, waiting
On folks like me and you.

He has no cross in Flanders Field,
'Mid poppies' crimson hue;
His cross is in the aching hearts
Of folks like me and you.

—*American Journal of Clinical Medicine*, Sept., 1920.



Repopulating France: Production and Salvage.

The French Government appears to have learned at last that there are two ways of building up its diminished population, by production and by salvage, by encouraging indiscriminate raising of large families and by a systematic effort to save the lives of those children already born and doomed to die in their infancy thru lack of proper care. Since the Armistice, the French authorities have issued frequent and almost hysterical appeals to the heads of families, have offered prizes and premiums for the greatest number of children, have done everything in their power to increase the population by the encouragement of production. The mischief of this short-sighted policy has been pointed out more than once in these columns. But now some of the more intelligent leaders of the movement have discovered that there is a more fertile field, a more logical course for their efforts, that tho the war made serious inroads on the population, there is a permanent and graver factor that is threatening the country—infant mortality. A high medical authority has come out with the statement that France can add 100,000 to its population annually if infant mortality were cut down. And he adds that the task is not a difficult one. The death rate of infants within their first year in France hovers between 15 per cent. and 20 per cent. Among illegitimate children and those abandoned by their parents, the rate is as high as 45 per cent. During the war France lost in all 1,700,000 men, but since 1914 the population of France has been reduced by 4,000,000. The war is, therefore, not the chief factor in depopulation. The high death rate, particularly among children, is responsible for the bulk of the loss. The result is that the more intelligent element among the public is beginning to ask itself why it should raise

large families if their lives are not assured by the utmost efforts on the part of the government which demands them.

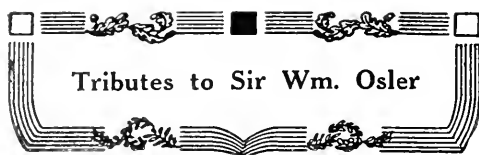
The Ministry of Health, in response to this new tendency, has opened a large maternity hospital and is providing funds for another. The existing laws giving allowances and special privileges to expectant and convalescent mothers are to be altered so as to give pregnant wives a longer period of preparation and a longer period of rest after childbirth. Efforts are also to be made to surround the new-born infants with every possible protection against disease and death. In short, a very vigorous effort is to be made to increase the population of France thru salvage rather than thru production. Such a course is highly commendable. It is more intelligent than the visionless exhortation to multiply like the sands of the ocean. That was well enough in biblical days, but we are living in a different age and under different conditions today—an age and conditions which call for more far-sighted methods.

American Aid Saves 6,000,000 Children.

—It is interesting to add that the principle of salvage, in preference to production, was very early recognized by America. When the history of Europe during the past two years comes to be written, it will be seen that America contributed more to the repopulation of Europe than the individual countries themselves. It was stated recently that the work of the American Red Cross and the American Relief Administration in Europe saved the lives of 6,000,000 children. Their relief efforts alone were almost sufficient to balance the entire loss of life during the war. While the European countries, like France, were making hysterical appeals to their nationals to

produce larger and larger families, the Americans were acting on the principle that saving the life of a child already born was a more definite and certain contribution to the population than exposing a new being to the hazards of existence. The inconsistency of an appeal by governments for more children in the same breath as an appeal for food for starving infants was pointed out here before. There is not enough food in Europe to supply the needs of the children already born, and were it not for American aid the fatalities among these would be appalling.

Fortunately, the Americans acted on a more far-sighted principle: increasing the population by restoring the balance of births over deaths, not by increasing births, but by cutting down deaths. The high infant mortality was the most vulnerable point in Europe's defense against continued depopulation. Feeding stations were opened in the most stricken areas in Europe, millions of children being fed there. In Vienna alone, the American Red Cross has more than fifty such stations. Children's clinics were also established and the health of the youngsters was carefully nursed. Sanitary methods were introduced in homes and in schools and instructors were sent to teach mothers how to care for their young. In Czecho-Slovakia the Junior Red Cross has introduced a "Health Game" which is being played by more than 70,000 school children in four of the largest cities in the young republic. The "toys" employed in this game are soap, tooth brushes, tooth paste and sanitary articles of a similar nature. The laws of hygiene are being taught by play methods and parents as well as children have been won to a régime which has resulted in better health and in many cases even an increase in weight in the undernourished youngsters. Beginning with the year 1921, it is the purpose of the American Red Cross to concentrate almost exclusively on the needs of the children of Europe, on the theory that after two years of assistance the adults ought to be in a position to look after themselves. Thus, if any of the European countries show an increase in population in the near future they will have to thank not themselves, but American appreciation of the value of human salvage as the most effective means of repopulation.



The First Anniversary of Sir William Osler's Death.—To those who knew Sir William Osler intimately, it seems almost impossible to realize that he is dead, and that a whole year has passed since he was taken away. This is due to the remarkable personality possessed by Sir William Osler, and few men in our day have been able to impress themselves on their friends and acquaintances as this great physician did. While this sense of the unreality of his death is perhaps to be expected on the part of those in this country and Canada, who were not in daily personal contact with Sir William Osler, we learn that even those in England who enjoyed actual association with him every day, and had this association suddenly cut off by his death, still have the feeling that he is about to join them—that he still lives.

And so a year after his death, we believe that the medical world has not yet come to realize the loss that it has sustained. Gradually the actual fact will become evident, and then, but not until then, will the medical profession begin to grasp and fully appreciate the greatness of Osler. Today our thoughts are too full of the lovable qualities of the man, and the pleasures of his friendship. But tomorrow we will recognize the imprint he has made on modern medicine. Then will we understand the debt we owe to Osler, the foremost clinician and medical teacher of his day. Then will we know that Osler can never die!

It gives us great pleasure to print the splendid, comprehensive article by Dr. S. Adolphus Knopf in this issue, together with the following brief tributes by a few others who also knew Sir William Osler intimately. We consider it a privilege to thus help in commemorating the first anniversary of his death, and trust that this issue will serve in some degree not only to honor a great physician but to carry to the American medical profession the inspiration of Sir William Osler's life and work.

Impressions of Osler After a Year.

After all that has been written about Osler, this remains, no man in our generation has had so large an influence, and this is mostly due not to laboratories, research methods or to discoveries, but to personal qualities. Osler was ever an idealist in his work, far above all mere material standards.

His gifts as a teacher were so unusual that every student and even the casual visitor, who has seen him at the bedside carries a vivid picture as tho he stood by him but yesterday, and saw him half-inclined towards the patient and quizzically half-turning towards his hearers and summing up the situation in a few explosive, terse, epigrammatic sentences destined to remain indelibly fixed in the memories of his hearers. Such surely is the supreme quality of a great teacher.

Osler's life was poured out in the interests of medicine and all his other activities were tributary to this end. In advancing scientific medicine with a few chosen spirits of the age he overthrew the age-long superstition of polypharmacy which opposed progress like a Chinese wall.

High spiritual qualities governed his relations to students and to friends, and to each he gave some real bit of himself which gripped everyone who came into close contact with him; an invaluable adjuvant was his remarkable memory of men and their names.

Great energy, supreme devotion to a great cause, and unrelenting toil for the highest ideals in a humane profession, embodied in a bizarre personality saturated with a love of his fellows produced unparalleled results. These Oslerian qualities are in some measure attainable by all who seek the highest standards in our profession, and without them there can be no true success.

HOWARD A. KELLY.

"Always An Optimist."

A little more than a year has passed since the death of Sir William Osler and still tributes to his memory continue to be written and his various wise sayings quoted.

Osler was a great personality and impressed his mark on every community and country in which he labored. I first knew him in 1870 when he came as a student from Toronto to McGill. At that time he was an enthusiastic, energetic and forceful young man. Lectures and note-taking he rather despised and spent most of his time in the wards of the hospital and the post-mortem room. At that time he was one of the few students who possessed a microscope and he used it continually.

Altho Osler did not take a very high degree, his thesis on pathologic anatomy was specially commended and some of the specimens with which it was illustrated are still in the Medical Museum of McGill University.

After two years abroad he was appointed Professor of the Institutes of Medicine at his Alma Mater at the age of 25. He soon became a power in the Medical Faculty, introduced reforms, new methods of teaching and new men. He took charge of the smallpox hospital and performed all the post mortems, both public and private. In 1878 he was elected Physician to the Montreal General Hospital and he, with the late Professor George Ross, introduced the methods of clinical teaching by which he became so famous while at Johns Hopkins.

He revived the Medico-Chirurgical Society of the city, which was very decrepit, and brought opposing factions together so that they worked amicably; founded the Students Medical Society and held weekly demonstrations on morbid anatomy, which all the younger medical practitioners attended. He also started a laboratory of practical physiology and edited Volume 1 of the Montreal General Hospital Reports.

At the end of ten years he left us for Philadelphia where he remained five years and was as much a leader at the University of Pennsylvania as at McGill.

In 1889 he went to Johns Hopkins Hospital and with Welch and Kelly and Halsted organized the New Medical School.

As a clinical teacher, with a sound training in Practical Pathology, Osler made a great reputation and sent his students throughout the United States to carry on his methods of instruction. There is no doubt he was chiefly instrumental in reforming or rather establishing better methods of clinical teaching in the United States.

In 1905 Osler was called to Oxford as Regius Professor of Medicine and remained there until his death in 1919. In Oxford, and in England also Osler soon became a power for good. He reformed the Medical School of Oxford and soon became prominent in medical affairs thruout Great Britain. He was active in making the Bodelein library a useful institution and was an active member of the College of Physicians.

Osler had a great capacity for making friends and altho he made many new ones he never forgot his old ones. He was also a very stimulating and suggestive teacher and colleague and had the power of evoking the love of his students and fellow-workers. Osler was a man of wide reading as any one can see who reads his essays. He has written much and written well. *Aequinimitus* and *The Alabama Student and other Biographical Essays* should be in the hands of every literary and medical man. He had high ideals and at the dinner given him at the Waldorf in New York by the profession, said: "I have three personal ideals, one, to do the day's work and not bother about tomorrow; the second ideal has been to act the Golden Rule as far as in me lay, towards my professional brethren and towards the patients committed to my care; and the third has been to cultivate such a spirit of equanimity as would enable me to bear success with humility, the affection of my friends with pride and to be ready when the day of sorrow and grief comes to meet it with courage befitting a man."

Sir William Osler received many honors, was a Fellow of the Royal Society of London, Fellow of the Royal College of Physicians, London, had any number of LL.D.'s and D.C.L.'s and was in 1911 made a Baronet by the King. He never forgot his Alma Mater and was always interested in its welfare. He gave much to it while living and bequeathed to the Medical Faculty of McGill his wonderful library of old medical works and also directed that his ashes should repose in a suitable place near his beloved books. Osler had a keen sense of humor and was fond of practical jokes, was a cheering and stimulating companion and was always an optimist.

FRANCIS J. SHEPHERD.

A Genius for Friendship.

Of course everyone who came in contact with Osler was made to feel that Osler had a special interest in him. No one that I have ever met impressed me so much with his power to give such special attention to every one of his acquaintances as made him feel that he was a particular friend. Nearly twenty years ago I asked to be allowed to dedicate my book *Makers of Modern Medicine* to him, and he was as gracious about it as if I had been one of his students, or a life-long friend. The article in it on the Irish School of Medicine was practically due to him. He was very much interested in Graves and Stokes and Corrigan, and so one summer when I was going over to Ireland he gave me a sheaf of introductions to men prominent in the profession in Dublin, and so I had the opportunity to see the conditions under which the Irish School of Medicine had accomplished its great work. As he handed the bundle of letters to me he said, "Of course this means that you must come down and read a paper on this subject at the Medical History Club of the Johns Hopkins Hospital" and of course I said I would, just as pleased as I could be over the invitation.

I wondered, when he went over to England, whether he would not find it rather difficult to keep up this wonderful attitude toward all the world. I feared that the proverbial coldness of our British cousins would prove glacializing even for Osler's geniality. It did not. I have heard British doctors, who had never met him until he went to England, ardent in his praise.

While others talk about his magnificent clinical powers of observation, his ability as a teacher, and his magnificent intellectual talents and broad interests, I feel that the one thing above all for which Osler should be remembered was his veritable genius for friendliness. He accomplished an endless amount of good by it, giving incentive to younger men to accomplish good work, but above all to be broad in their interests, forward looking in their work as young men, postponing material success for a little while in order that, as older men, they might reap ever so much more satisfaction from life and often secure even better material results than would be the case if they hastened into money making at once.

This example set by Osler can be followed by all men. It added a great deal to the happiness of mankind. He furnished a magnificent exemplification of the meaning of that phrase "being all things to all men." It was for this quality that those of us who knew him personally will continue to cherish his memory until we ourselves have passed over.

JAMES J. WALSH.

"Enshrined in the Hearts of Medical Men in Two Continents."

In presenting this brief or tribute to the memory of Sir William Osler, I feel that little new can be added to the spontaneous and world-wide expressions of appreciation of his life work and regret at his death, of sincere admiration of his very lovable character and always stimulating influence on the profession, both in Canada and the United States. Graduating the year before he did, my knowledge of him as a student was only slight. In his class he was always respected for his thoroughness in whatever he attempted. His graduating thesis was on *The Value of Pathological Anatomy*, and was accompanied by beautifully dissected illustrative specimens which still hold a prominent place in our museum. During the ten years spent in Montreal after graduation, he was the stimulating center of a small group of active and brilliant young men connected with McGill, most of whom are now dead; men whose character and teaching had a great influence for good on the profession in Montreal and thruout Canada. When settled in Philadelphia, and afterwards at Johns Hopkins Hospital, he never forgot his friends or even acquaintances. Indeed, he had a wonderful way of treating the greater number of the latter as his most sincere friends. No one ever left his ward without being cheered and stimulated to further endeavor. The American profession has had many notable men in its ranks. Boston and Philadelphia have had graduates whose names are enrolled in our medical Hall of Fame. No man, however, that I can remember has done more to enrich medicine by keen observation, more to stimulate the general uplift of our profession thruout our country, or has,

withal so enshrined himself in the hearts of medical men in two continents, and wherever the English language is spoken.

A. D. BLACKADER.

"Only Those Who Were Privileged to Live With Him Can Fully Appreciate the Moral Ascendancy of His Personality."

There are certain influences upon our lives that we cherish as the most sacred of our possessions. Among such influences upon himself the writer includes the instruction received from Sir William Osler, the opportunity for personal association that he so freely allowed, the stimulation to higher and nobler effort that his way of life aroused in one permitted closely to observe it and, above all, the constraining power of a friendship that called forth always from those to whom it was granted the best they had to give.

Future generations will praise the work and influence of this man, but only those who were privileged to live for a time in close contact with him, can ever fully appreciate his subtle beneficence or the moral ascendancy of his personality.

LEWELLYS F. BARKER.

Sir William Osler at Oxford.—Sir William Osler will be best known to posterity as a great teacher of medicine. The deceased Canadian physician was as well known in America as in Great Britain, but a brief account of his work at Oxford may be of interest to American medical men in general. His tenure of the Regius Chair of Medicine at the great English University was fruitful and remarkable in many ways. It is pointed out in an elegant tribute to him in the *London Times* of December 30, that when he came to Oxford in 1905 as a stranger he found the Medical School at a very important period of its development, and he at once recognized its possibilities and devoted himself to the solution of its problems. By his enthusiasm and the charm of his personality he brought about more close and intimate relations between the University and graduates in London

teaching schools and thus prevented the possibility of a breach which was in some danger of arising. Osler in his efforts to make of Oxford a great medical school, nevertheless carried on the traditions of his predecessors, and his greatest contribution to Oxford medical studies lay in the development of clinical teaching, while the improvement in clinical teaching owed not a little to his friendships with Oxford doctors. However, his teaching was not confined to clinical medicine, for his own wide intellectual interests led him to regard it as essential that a student should care about the history of his subject, and he gathered young students about him in his own house and used his own valuable library of early medical works to awaken their interest. The personality of Sir William Osler was the characteristic which perhaps made the deepest and most lasting impression. He possessed a perfect genius for friendship and the power of retaining a vivid recollection of all who were brought into contact with him. It may be emphasized that he was specially the friend of Colonial and American undergraduates.—*Medical Record*.

Osler's Principles and Practice of Medicine.—In his *magnum opus*, says C. F. Martin in the *Canadian Med. Assn. Jour.*, July, 1920, "The Principles and Practice of Medicine," he has revealed with translucent clearness his exceptional attainments as a teacher. "The printed page," he says, "has brought me mind to mind with men in all parts of the world, and to feel that I have been helpful in promoting sound knowledge is my greatest satisfaction."

This great work, the best text-book ever written, a veritable store-house of information, enriched with redundant reference from his own clinical experience and with a mass of historical data most marvelously condensed—these afford ample evidence of his greatness as a teacher, as a clinician, and as a source of inspiration to all privileged to come under the spell of his versatile and matured genius.

But above all else, it was as a man, as a personal inspirer, that his power as a teacher was most conspicuously manifest. For above all the forces that made for progress in British and American medicine

was this personal factor, the indefinable power of a genial rounded and masterful personality. Thus it was that by "adding probity to learning sagacity and humanity, he reached the full stature of the Hippocratican physician." His exceptional ability as a clinician and teacher was singularly enhanced and perfected by the breadth of his sympathies as cosmopolitan as they were genuine, and certain to preserve him in the affection of all who experienced his solicitous concern for their good.

His was a personality robust, strong and tender, the tenderness gaining added beauty from the strength. Moreover, his intellectual power was matched by unusual moral force—the whole crowned with that grace of humility which is ever the supreme mark of a great character. And thus it is true that we can understand how he was enabled to maintain, despite all the experience in his professional career that tempted to cynicism and pessimism, a robust and rational optimism which, while frankly recognizing existing evils, enabled him to see beyond them to the forces that make for truth and goodness in the world.

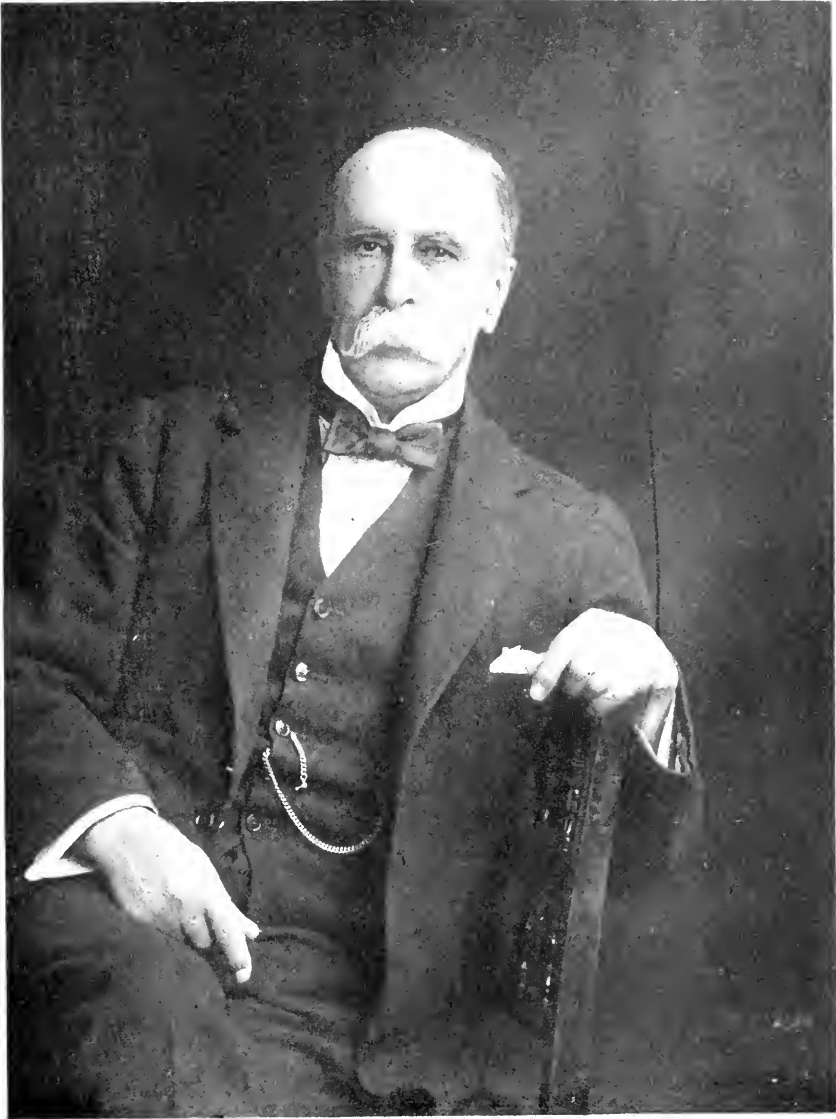
His was a life lived truly, fully, progressively, lovingly, with no anger at criticism, no catering to popular standards, no desire for mammon, no falseness to his ideals, and no surrender to a life of indolence—a life steeped in tireless unselfish service and in radiant hope.

To him we may fittingly apply the words recorded by our most distinguished modern poet in the last verse of the last poem from his pen—

"One who never turned his back but
marched breast forward,
Never doubted clouds would break,
Never dreamed, tho right were worsted,
wrong would triumph,
Held we fall to rise, are baffled to fight
better,
Sleep to wake."

One of Osler's Mottoes.—In one of his farewell addresses Sir William Osler concludes:

"I have loved no darkness,
Sophisticated no truth,
Nursed no delusion.
Allowed no fear."



Courtesy of Dr. S. A. Knopf

From even
H. A. Oiler



ORIGINAL ARTICLES

IN MEMORIAM—SIR WILLIAM OSLER, BART.

To the First Anniversary of His Death.

BY

S. ADOLPHUS KNOFF, M. D.,

New York.

A year ago, on December 29th, Sir William Osler passed away at his home in Oxford, England, after a brief illness, at the age of 70 and was mourned by countless friends, colleagues, and admirers throughout the civilized world. He had celebrated his 70th birthday on July 12th, and on that occasion he received a series of the finest tributes that could be paid to a physician. The men belonging to Johns Hopkins Hospital and Medical College devoted the entire July number of the *Bulletin* to tributes from former colleagues, friends, and pupils. Henry M. Thomas wrote "Some Memoires of the Development of the Medical School and of Osler's Advent." Lewellys F. Barker, "Osler as Chief of a Medical Clinic." W. T. Councilman, "Some of the Early Medical Work of Sir William Osler." William G. MacCallum, "Osler as a Pathologist." W. S. Thayer, "Osler, the Teacher." Thomas R. Brown, "Osler and the Student." Thomas McCrae, "Osler and Patient." Louis Hamman, "Osler and the Tuberculosis Work of the Hospital." Thomas B. Fletcher, "Influence on the Relation of Medicine in Canada and the

United States." Henry Barton Jacobs, "Osler as a Citizen and His Relation to the Tuberculosis Crusade in Maryland." Edward N. Brush, "Osler's Influence on Other Medical Schools in Baltimore. His Relation to the Medical Profession." Hiram Woods, "Influence in Building up the Medical and Chirurgical Faculty." J. A. Chatard, "Osler and the Book and Journal Club." Marcia C. Noyes, Librarian, "Osler's Influence on the Library of the Medical and Chirurgical Faculty of the State of Maryland." Henry M. Hurd, "Some Early Reminiscences of William Osler." Howard A. Kelly, "Osler as I Knew Him in Philadelphia and in the Hopkins." Thomas R. Boggs, "Osler as a Bibliophile." Edward N. Brush, "Osler's Literary Style." Miss Maude E. Abbott compiled Osler's bibliography which covers a period of 49 years, from 1870 to 1919. The 730 titles include both books and articles.

This issue of the *Bulletin* is handsomely illustrated by numerous pictures of Osler. There is a reproduction of the painting by Sargent of William Osler in 1906 in his professional garb; also an amusing but

very beautiful picture of Osler with the wings of a saint hovering in a cloud over Johns Hopkins Hospital, while in the foreground beneath are all kinds of microorganisms illustrating diseases which the master taught the students how to diagnose and to combat. McCrae's article "Osler and Patient" is beautifully illustrated; it shows Osler in his attitude of examining a case apparently difficult to diagnose. Henry Barton Jacobs reproduces in his tribute the painting by Seymour Thomas of Osler in 1908 which shows him in his study, and underneath are the following beautiful verses by Basil L. Gildersleeve:

William the Fowler, Guillaume l'Oiseleur!
I love to call him thus and when I scan
The counterfeit presentment of the man,
I feel his net, I hear his arrows whir.
Make at the homely surname no demur,
Nor on a nomination lay a ban
With which a line of sovran lords began,
Henry the Fowler was first Emperor.

Asclepius was Apollo's chosen son,
But to that son he never lent his bow,
Nor did Hephaestus teach to forge his net;
Both secrets hath Imperial Osler won.
His winged words straight to their quarry go.
All hearts are holden by his meshes yet.

Miss Noyes, in her article "Osler's Influence on the Library of the Medical and Chirurgical Faculty of the State of Maryland," reproduces Osler's beautifully illustrated bookplate. Pictures of the master taken in 1901, 1902, and 1913 are shown, and lastly a group picture of Halstead, Osler, and Kelly with the words underneath written by Osler, indicating that Halstead represents respectability, himself sobriety, and Kelly godliness.

The most monumental work which was gotten up in honor of Osler's 70th birthday is the two volumes entitled "Contributions to Medical and Biological Research, Dedicated to Sir William Osler, Bart., M. D., F. R. S., by His Pupils and Co-Workers."

In the most gracious preface to this "Festschrift" Sir Clifford Allbutt says:

"Ever in the heart of the folk of the New World lies warm and deep the kinship with the old home; thus, almost with the rapidity of thought, between Canada, the United States, and Great Britain an academic link three-fold was forged. In no person as well as in your own could this unity have been so happily consummated; you arrived indeed from overseas but as a pilgrim child of Oxford. In you the literary and historical tradition of the beautiful city was united with the zeal and adventure of the New World; so that in winning you for Oxford, and for Cambridge and Great Britain, we did no robbery to Baltimore and Montreal.

"Since that day we have shared, in our degrees, your happiness and your sadness; we have rejoiced in your honours, and on this day, when you reach the limit that the men of old regarded as the last ripeness of a man's life, I, your brother Regius Professor, am permitted to offer to you from both worlds, as a tribute of admiration and affection, our little horn, if not of plenty, yet of the best of our gardens.

"Your 'radical humours contain more than sufficient oyl for seventy years'; oyl enough to keep your lamp trimmed and bright till the old world, now tardily procreant, be brought again to the birth. Meanwhile, in good days or evil, you can thankfully say after our great Example—'My Father works hitherto and I work.'"

The two volumes, of between 600 and 700 pages each, edited by Prof. William H. Welch of Baltimore, contain contributions on a variety of subjects, medical, surgical, pathological, historical, etc., that will forever remain a monument of the greatness of Osler, showing in what high esteem and love he was held by the three English-speaking countries—the United States of America, Canada, and England. The contributors of the two volumes are: Maude E. Abbott, T. D. Acland, J. G. Adami, Sir T. Clifford Allbutt, James M. Anders, Edward B. Angell, F. H. Baetjer, C. R. Bardeen, Lewellys F. Barker, C. C. Bass, Frank Billings, Kenneth D. Blackfan, Thomas R. Boggs, A. E. Boycott, Norman Bridge,

Nathan E. Brill, Lawrason Brown, Thomas R. Brown, William Browning, C. H. Bunting, George E. Bushnell, A. Caille, C. N. B. Camac, Arnold Chaplin, Henry A. Christian, Solomon Solis Cohen, W. T. Councilman, David Murray Cowie, Raymond Crawford, J. Beattie Crozier, Thomas S. Cullen, Arthur R. Cushny, Charles L. Dana, Theodore Diller, George Dock, Georges Dreyer, Cecil K. Drinker, David L. Edsall, Max Einhorn, Frederic J. Farnell, Sir Walter M. Fletcher, Simon Flexner, John Foote, William W. Ford, John A. Fordyce, Michael G. Foster, Nellis B. Foster, Mortimer Frank, Harry Friedenwald, Julius Friedenwald, Channing Frothingham, Thomas B. Futcher, Sir James Galloway, Fielding H. Garrison, Sir Archibald E. Garrod, Sir Auckland Geddes, Arpad G. Gerster, Alexander G. Gibson, E. S. Goodrich, H. L. M. Pixell Goodrich, Sir James Grant, William Washington Graves, Norman B. Gwyn, J. S. Haldane, W. Hale-White, William Stewart Halsted, Louis Hanman, Ludvig Hektoen, James B. Herrick, Guy Hinsdale, Bayard Holmes, Gordon Holmes, B. Raymond Hoobler, C. P. Howard, John Howland, Henry M. Hurd, Arthur F. Hurst, Edward Jackson, A. Jacobi, Henry Barton Jacobs, Elliott P. Joslin, Arthur Keith, J. H. Mason Knox, Jr., George M. Kober, Henry Koplik, S. P. Kramer, H. R. M. Landis, E. Libman, Jacques Loeb, Frederick T. Lord, J. Y. W. Macalister, W. G. MacCallum, Thomas McCrae, Leonard L. Mackall, Sir Andrew Macphail, Archibald Malloch, C. F. Martin, Rudolph Matas, C. H. Mayo, W. J. Mayo, William H. Mercur, Adolf Meyer, Jos. L. Miller, Roger S. Morris, Edward L. Munson, Geo. W. Norris, R. Ottenberg, H. C. Parsons, Frederick Peterson, S. A. Petroff, Sir D'Arcy Power, Charles A. Powers, Joseph H. Pratt, Sir Humphry Rolleston, Robert Dawson Rudolph, John Ruhrän, Joseph Sailer, G. H. Savage, C. Shearer, C. S. Sherrington, Charles Singer, Dorothea Singer, G. H. Smith, E. E. Southard, William G. Spiller, M. Allen Starr, Alfred Stengel, George F. Still, Charles G. Stockton, Richard P. Strong, Fritz B. Talbot, Arthur Thomson, John Thomson, Hiram N. Vineberg, E. W. Ainley Walker, James J. Walsh, Louis M. Warfield, J. Collins Warren, Aldred Scott Warthin, F. Parkes Weber, John E. Weeks, William H. Welch, G. H. Whipple, William A. White, George

H. Williams, J. Whitridge Williams, Francis A. Winter, M. C. Winternitz, E. T. Withington, Casey A. Wood, R. Ramsey Wright.

The volumes are published by Paul B. Hoeber, New York, and are profoundly illustrated and beautifully bound. Sixteen hundred copies of them were printed and the type distributed.

If the 70th anniversary of William Osler's birthday was the occasion for all the tributes just enumerated, how much more did his untimely death give rise to tributes and eulogies! These were more, I believe, than have ever been paid to any physician at any time since medicine has become a science. The *Index Medicus* lists tributes from Europe and America so numerous that merely to mention them would fill many pages. It suffices to say that the medical profession of the entire civilized world paid homage to the great physician whose works had been translated into most European and even some Asiatic languages and whose pupils have been numbered by thousands.

Of course, in the three countries, Canada, the United States, and England, the tributes were particularly touching because they emanated from the men who had known Osler personally as colleagues, friends, or pupils. Numerous memorial meetings were held and memorial volumes have been published in those three English-speaking countries, giving evidence of the esteem in which this physician, teacher, guide, and lover of his fellow men was held. Thayer speaks of Osler in the memorial number of the *Medical and Chirurgical Bulletin of Maryland* as follows:

"It is probable that there has, in America, been no medical man so universally revered, no man whose power, whose inspiration has reached so many, no man so loved. Wherein lay the secret of his power? What was the manner of the man? His father was Cornish, and Osler was a true Celt. A

Celt in appearance, not large, of a very dark, almost olive complexion, with a rather long, drooping black mustach—a Celt in his charming vivacity and brilliancy and in his sparkling wit. Not large, but well built, with a wiry, athletic figure, a long, swinging, active gait, a peculiarly mobile face, serious and almost stern when at rest, and deep, dark brown eyes, with an irresistible humorous twinkle; deep, clear eyes, so clear that altho they might sometimes seem unfathomable, they told at a glance of a pure, kindly, loyal spirit behind. As a teacher he was wholly simple and devoid of circumstance or the least attempt at studied eloquence or theatrical effect."

F. J. Shepherd, in his biographical sketch of Sir William in the memorial number of the *Canadian Medical Association Journal*, says:

"As a clinical teacher, Osler was at his best; not only was he an acute diagnostician and a clear expositor, but he treated his hospital patients most kindly, as human beings and not as mere cases. His example was one which made a great impression on his students and the Osler tradition of gentleness and sympathy with patients was handed on."

W. W. Keen, in the same Memorial Number, pays his tribute to Osler and characterizes the man in the following happy terms:

"Wherever he went the wheels began to go 'round, things began to be done, and all for the good of the profession and of the community. The dry bones as in Ezekiel's Vision gathered themselves together and became imbued with active life. The diligent were encouraged to become more diligent, the slothful were shamed into activity. He was a fount of inspiration. His personal influence extended more widely and to better purpose than that of almost any one I have ever known."

In the *British Medical Journal* of July 5, 1919, Chaplin, the Harveian Librarian of the Royal College of Physicians, London, expresses himself as follows concerning Osler's love both for history and for up-to-

date knowledge of all that was new in medicine:

"It may be doubted if the annals of medical history contain another example of a physician uniting so completely in his intellect a whole-hearted veneration for the past in medicine and the keenest enthusiasm for modern medical methods and knowledge."

Field H. Garrison in *Science* of January 16, 1920, says:

"Osler's warm glance and utter friendliness of manner told how naturally fond he was of people. He had the gift of making almost any one feel for the moment as if he were set apart as a valued particular friend, and so became, in effect, a kind of universal friend to patients, pupils and colleagues alike."

Osler's New York friend, Charles L. Dana, wrote on "His Service to Society as Physician and Humanist" and expressed himself in the following glowing terms:

"Sir William Osler was altogether the best known and best loved physician that this or any country has produced. His influence and achievements are not to be measured by the books he wrote, the students he taught or the scientific observations he made. Thru the influence of his ideas, his personality and the mellowing activities of his career, he enriched the medical profession and greatly helped to raise its art to a point which now compels for it the esteem of society in general."

In the same issue of the *New York Times*, another of Osler's New York friends and admirers, Dr. Beverley Robinson, wrote as follows:

"In the death of Dr. Osler the world is poorer. He, indeed, was a great physician and a great and good man. Never failing to any one in timely great courtesy and kind acts, he was ever true to highest duty to his noble profession, which he adorned by every possible grace of knowledge and culture. I remember him well, and always with feelings of warmest admiration and friendship. Spiritually, he is well shown in the following words, taken from "Science

and Immortality," his address at Harvard University in 1904: he it is 'who had rather be mistaken with Plato than be in the right with those who deny altogether the life after death; and this is my own *confessio fidei*.' "

Professor Harvey Cushing of Boston, who had already written an admirable tribute, entitled "William Osler, The Man," has been entrusted by Lady Osler to write the complete biography of the great physician and we know it will be a monumental work. In his contribution to the Annals of Medical History, just mentioned, Dr. Cushing closes his tribute in the following words:

"In 1910 'Man's Redemption of Man' was delivered at a service for the students at the University of Edinburgh. Osler unconsciously chose as his text from Isaiah what he himself has been to those who knew him: 'And a man shall be as a hiding-place from the wind, and a covert from the tempest; as rivers of water in a dry place; as the shadow of a great rock in a weary land.'"

My own acquaintance with Osler dates back to the time when he was in the first years of his professional duties at Johns Hopkins. I was always amazed at the amount of time and interest he spent on behalf of the tuberculosis cause. As an anti-tuberculosis worker I knew him intimately and as such it was my privilege to become acquainted with his large humanitarian views, his wonderful insight into the social aspects of tuberculosis, besides his profound knowledge of all that appertains to the pathology and clinical aspect of this disease of diseases.

To me had been allotted the task of writing the history of our National Tuberculosis Association, including the biographies of its officers and leaders. It has been a labor of love, but nothing that I have written did I write more gladly and more reverently than the biographical sketch of

Osler as an anti-tuberculosis worker. The volume of the history will not appear before some months, but I feel that I could not better honor the memory of a beloved teacher and friend on the first anniversary of his death than by presenting to the many readers of AMERICAN MEDICINE, together with the preceding quotations from some of the tributes by great men of the three English-speaking countries, the contents of my own modest contribution from the advance sheets of the history of our National Tuberculosis Association, including the reproduction of Sir William's latest and best photograph.¹

The first physician to receive the distinction of a unanimous election as Honorary Vice-President of the American National Tuberculosis Association was our late and much regretted Sir William Osler, who, when at Baltimore, as has already been stated in the preceding pages, was one of the prime movers in its formation. His interest in the tuberculosis problem in its social as well as its medical aspects, has been unabated. He was closely identified with the anti-tuberculosis movement in America as well as in England and his counsel was sought as an expert in all that appertains to this most widespread of diseases. The accompanying bibliography comprises some fifty of his most important contributions on the subject of tuberculosis. To Dr. Osler is due the formation of the Laennec Society for the Study of Tuberculosis which is a part of Johns Hopkins Medical School, and in 1900 he established the first social service division in connection with the tuberculosis work of the Johns Hopkins Hospital.

This universally beloved physician was justly claimed by three countries—Canada,

¹ The accompanying picture is a reproduction of a photograph Sir William kindly had taken shortly before his last illness to enable the author to illustrate the biographical sketch for this history. It is generally conceded to be the best portrait of him in existence. The picture was sent from England by Lady Osler shortly after the death of Sir William and the signature was copied from a personal letter to the author.

the United States, and England. He was born in Bond Head, Ontario, on July 12, 1849, and came from a family of culture, his father being the Rev. F. L. and his mother Ellen Frere (Pickton) Osler. He started out in life with high ambitions and noble aims, graduating from Trinity College, Toronto, in 1868, and taking his medical degree at the McGill University, Montreal, in 1872. He went abroad for a post-graduate course, studying at London, Berlin, and Vienna. On his return in 1874 he was made professor of the Institute of Medicine of McGill University where he remained until 1884, and then accepted a call as professor of clinical medicine of the University of Pennsylvania. With the foundation of the medical department of Johns Hopkins University in 1889, Dr. Osler became professor of theory and practice of medicine of that institution and at the same time physician in chief of Johns Hopkins Hospital, where he remained until the spring of 1905. In the fall of 1904 he had received and accepted a call from Oxford to become regius professor of that world renowned university. In reply to the author's congratulation on his receiving this great distinction, he wrote: "Naturally, I am very loath to leave America where I have been so well treated and where I have so many friends, but it really is an act of self-preservation. I could not possibly stand for very long the high pressure of my present life. The position is almost purely academic, and I still have an abundance of time for my literary work."

When Osler left America, a dinner was given to him, the memory of which will be forever cherished by those who were present. He was eulogized as a teacher, clinician, consultant, and author by such men as Tyson, Shepard, Wilson, Welch, Jacobi, and Weir Mitchell. Osler's reply was full of expressions of gratitude and appreciation. Among other things he said:

"Why so much happiness has come to me I know not. But this I know, that I have not deserved more than others, and yet a very rich abundance of it has been vouchsafed to me. I have been singularly happy in my friends, and for that I say 'God be

praised.' I have had exceptional happiness in the profession of my choice, and I owe all of this to you. * * * I have been happy, too, in the public among whom I worked—happy in my own land in Canada, happy here among you in the country of my adoption."

His venerable mother and his wife were seated in one of the boxes, and turning a grateful glance upward, he said:

"Of the greatest of all happiness I cannot speak—of my home. Many of you know it, and that is enough. * * * I have had three personal ideals. One, to do the day's work well and not to bother about tomorrow. The second ideal has been to act the Golden Rule, as far as in me lay, towards my professional brethren and towards the patients committed to my care. The third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man."

The honors bestowed upon Osler are almost too numerous to recount. He received the honorary degree of LL.D. from McGill University in 1895, from the universities of Aberdeen and Edinburgh in 1898, from the University of Toronto in 1899, from Yale University in 1901, from Harvard University in 1904, and from Johns Hopkins in 1905. The degree of Doctor of Civil Law was conferred by Trinity University, Toronto, in 1902, and the University of Durham in 1913; the degree of Doctor of Science from Oxford University in 1904, Liverpool University in 1910, and the University of Dublin in 1912. He was made a fellow of the Royal College of Physicians in 1883, and a fellow of the Royal Society in 1898. In 1911 Osler was created a Baronet of the United Kingdoms by King George V. In 1918 Sir William was made president of the British Classical Association, a rare honor indeed to be bestowed

upon one whose training had been that of a physician purely and simply.

Osler's interest in America, in its medical institutions, and in his countless friends and pupils was genuine and lasting until the end. His work in Oxford equaled his achievements in Montreal, Philadelphia, and Baltimore. In answer to an inquiry prior to the publication of an article on "The Tuberculosis Situation After the World War," Sir William wrote me under date of May 26, 1919, "All goes well here and I hope we will get the tuberculosis problem settled ere long on national lines." During the war he worked for the health of the English and Allied armies. The death of his only son, Revere, who made the supreme sacrifice in the World War, was a terrible blow to this great and good man, but he bore up under it bravely. In reply to a letter of condolence from the author, after expressing his thanks with his usual warm-heartedness, Sir William merely added: "It has of course been a pretty hard business." Then forgetful of his own sorrow he went on to speak of our duties as physicians in the World War. He kept on working for the soldiers and with the soldiers. He talked to them on subjects of hygiene, how to preserve their health and to prevent tuberculosis.

In November, 1919, Osler contracted pneumonia but he himself hoped for an early recovery, and on Christmas Day he sent a typical cheerful cablegram to Johns Hopkins Hospital, announcing that he was making a good fight; four days later he died. Perhaps he only sent that message to give Christmas cheer to his many friends on this side of the Atlantic. He must have analyzed the seriousness of his condition, for after his death the following note, dated December 23, 1919, was found among his effects:

"Dear friends, the harbor is nearly reached, after a splendid voyage with such companions all the way; and my boy waiting for me." How the soul of this great man is revealed in these simple words!

Cheerfulness and unbounded capacity for work, a devotion to the highest ideals of medicine and humanity, a marvelous scholarship, loyalty to his friends and kindness to the humblest of the humble, were the outstanding characteristics of Sir William Osler. His lifelong friend, Prof. William H. Welch, of Baltimore, well said of him, "To Osler nothing human was foreign. His home both in Baltimore and Oxford was a center of hospitality." Those who had the rare privilege to walk with Professor Osler thru the medical wards or who had the good fortune to have been present at some of his receptions to students will never forget the human side of his character.

Osler's loyalty to his friends was indeed genuine, particularly when they were in need or in distress as the author has reason to remember with undying gratitude. Osler was still smarting under the ignominious slander manufactured by a sensational news-seeking press which had taken seriously a jocular remark he had made on the subject of euthanasia when, as a result of a statement I had occasion to make at a meeting of our National Tuberculosis Association, I had to suffer a similar experience to that of the great Osler. During a discussion on the use of morphine in tuberculosis I ventured to say that in my opinion it was an almost indispensable remedy to assuage pain in the hopelessly ill consumptive. My statements were apparently approved by all present for it is well known that by the judicious administration of morphine we not only make the patient more comfortable

but in reality prolong life. Yet, to the amazement of nearly everybody who heard me, among whom were the leading authorities on tuberculosis in this country, I was denounced the following morning in a Philadelphia paper as having openly favored the administration of enough morphine to hopelessly ill tuberculous patients to end their lives. As is usual with such sensational so-called news items, this statement quickly made the rounds of the American and European press. On learning of this calumnious attack leveled against a younger colleague, Osler's indignation had no bounds. His own sufferings from a similar experience he had borne with that equanimity of resignation characteristic of this great soul, but when it befell somebody else it was different. He urged me to start legal proceedings against that newspaper at once, offered me his private purse to defray expenses, and assured me the support of the American profession at large. He stood by me up to the end of a very hard, but finally victorious, battle defending me publicly and comforting me in private by touching letters of sympathy and friendship which helped me to bear up under a most trying and painful experience.

Osler was devoted to his pupils, but he was also devoted to his teachers, and the veneration and enthusiasm he expressed when he spoke of his own masters and the masters of us all served as an inspiration that not only stimulated the interest in historic medicine but aroused gratitude for the inheritance which the teachers of past generations have left us. On October 5, 1905, he took the American delegation, which had attended the Fifth International Tuberculosis Congress in Paris, to the cemetery of Mont Parnasse to deposit a wreath on the tomb of Louis, the French physician at whose

feet so many American physicians of the past generation had sat. It was a touching tribute and gave the younger men a lesson in gratitude to our teachers.

Such a biographical sketch as this must necessarily be incomplete and inadequate to one of our greatest physicians of the Anglo-Saxon race of the present day, but we are considering mainly Osler's activities as an anti-tuberculosis worker. As such he instructed thousands of students by word of mouth and by his writings on early diagnosis, practical prophylaxis, and rational treatment. In a lecture he delivered soon after his arrival in England, he said:

"Probably ninety per cent. of mankind has latent tuberculosis, and if I had an instrument here with which I could look into the chest and abdomen of each of you I would probably find somewhere a small area of the disease. So widespread is the germ that practically all humans, by the time they become adults, harbor the bacillus of the disease. But we do not die, because we are not guinea-pigs and rabbits. We have attained a certain immunity. But the germ is in us, tho negative, and with all of us there is the possibility of slipping into the dangerous state. But when workers have living wages, when the house becomes the home, and the nation spends on food what it now spends on drink, then there will be millions instead of thousands with practically continuous immunity. For the enemy has been tracked to its stronghold, which is defended by three allies—poverty, bad housing and drink."

Regarding the social aspect, he looked upon tuberculosis as a disease of the masses, and particularly of those of little or no means, and we know that he induced many of his wealthy friends and patients to consecrate some of their fortunes to the relief of the consumptive poor.

Characteristic of William Osler and his labors are the words which grace the photograph he presented to those who bade him

farewell on May 2, 1905, when he was about to leave for Oxford. They were the immortal words of Abou ben Adhen "Write me as one that loves his fellow man."

Howard S. Anders, one of Osler's Philadelphia pupils, recalls in his tribute the master's saying that "There is no higher mission in this life than nursing God's poor." And Henry Sewall, the first pupil to matriculate and to graduate from Johns Hopkins, wrote: "If I tried to characterize Osler, three words would suffice, *sweetness and light*."

Osler was a sanitarian to the end, and as a demonstration of his firm belief that cremation is the most rational, sanitary, and economic disposal of the dead, he had expressed the wish that his body should be thus disposed of. His life-long friend and colleague, Professor J. George Adami, of McGill University, Montreal, who was present at the funeral service of Sir William, describes the final act in the passing onward of Sir William and the disposal of his earthly remains, in the Memorial Number of the *Journal of the Canadian Medical Association*, and among other things he says:

"From one end of the Dominion to the other there will be those deeply attached to Osler—'Our Osler'—who hunger to possess a fuller and more personal knowledge of the illness that took him from among us, and of the solemnly beautiful last service at Oxford on New Year's Day. Most touching at Christ Church was the Psalm 'Lord Thou hast been our refuge.' Clear and yet subdued, the balanced voices of the choir led the congregation that filled the narrow Norman nave, transepts, and chancel of the cathedral and poured over into the side aisles. * * * After a most impressive service the congregation was dismissed, and with the benediction dispersed, leaving all that was mortal of the great physician at rest for the night in the Lady Chapel, by the grave of his old friend, Burton of 'the Anatomy of Melancholy.' The next morn-

ing his remains were conveyed to London to the crematorium, where Lady Osler and her sister Mrs. Chapin, Mr. Frank Osler, Dr. W. Francis, and Dr. Molloch were alone present at the Committal Service.

"Doubtless, by the time this reaches Canada, it will be known that, in accordance with the expressed desire and as a last gift, Sir William's ashes are to be conveyed to Montreal, there to be deposited in the midst of his books in the Medical College of his student days, in which he held his first Chair, and which, to the end, retained his deep affection. With loving care those books were brought together, the first and the finest editions of the masterpieces of medical literature. How he loved to expatiate over their virtues! With what enjoyment he hunted for and acquired each rare volume! In that collection is concentrated the whole history of medical progress. There is nowhere so choice and well-selected a corpus of medical literature. Noble in itself, the gift is doubly ennobled by having associated with it all that is mortal of the great physician whose remains, after all his wanderings, are to come thus to rest in the country of his birth. McGill is to become his shrine, and for generations to come those who love medicine and its history will find there inspiration in that room where, surrounded by the books he loved so well, repose the ashes of Sir William Osler. Could there be nobler gifts or greater service to Canadian medicine?"

This gift will be deeply appreciated in the land of his birth, but the scientific work done by Osler, the influence he exerted as a medical teacher, the friendships he formed wherever he went, belong to us all. On one occasion, when making a farewell address, he said:

"I have loved no darkness, sophisticated no truth,

Nursed no delusion, allowed no fear."

To those wonderful words expressing his ideals, we who remain behind may reverently add: "You made countless friends among the rich and poor, the humble and the great. Your life was an inspiration to

old and young. You gave your heart and devoted the powers of your great intellect to the lessening of suffering that the world should be made better. You put into practice the maxim that service to man is the highest service to God."

The following resolutions were presented by the writer at the annual meeting of the National Tuberculosis Association held at St. Louis last year and unanimously adopted by a rising vote, the audience remaining standing for a few moments in honor of this great physician.

Whereas, In the death of Sir William Osler, Bart., the National Tuberculosis Association has suffered the loss of its first Honorary Vice-President and the three English-speaking countries, Canada, America, and England, a most distinguished physician, medical teacher, and anti-tuberculosis worker; and

Whereas, This Association is indebted to the late Sir William Osler for having been one of the prime movers in its formation and in no small measure responsible for its success from the beginning until now; and

Whereas, His interest in our Association was unabated even thruout the years of his sojourn as Regius Professor in Oxford; and

Whereas, By his wisdom, devotion, high ideals, and love for humanity he not only labored among physicians for a better understanding of the medical problems of tuberculosis but also labored untiringly for the improvement of the social conditions responsible for the spread of tuberculosis, and always took a special interest in the care of the consumptive poor, and during the World War, in the medical and sanitary care of the British and Allied armies; and

Whereas, Sir William, by his lovable personality, his genial spirit, veneration for his teachers, friendship for his colleagues, love for his pupils, great diagnostic skill, and devotion to his patients, endeared himself to thousands of American physicians and patients; be it

Resolved, That this Association record these attributes with the full consciousness of the profound debt it owes to the memory of Sir William and a deep appreciation of the glory he has shed upon his work as well as upon the history of the anti-tuberculosis movement in the three English-speaking countries in which he lived and labored. And be it further

Resolved, That these resolutions be spread on the minutes of this meeting of the Association and that they be engrossed and sent to Lady Osler with the expression of profound sympathy in the great sorrow which has befallen her in the passing away of her distinguished husband and her brave and only son, Revere Osler, who made the supreme sacrifice on the field of battle in the recent World War.

OTITIS MEDIA IN CHILDREN.— A CRITIQUE.¹

BY

SAMUEL J. KOPETZKY, M. D., F. A. C. S.,
New York.

Otitis media purulenta in children retains its paramount interest alike for the general practitioner, the pediatrician and the otologist.

Time was when otologists urged general recognition of these purulent ear conditions in childhood, and this was followed by teaching the therapy, both surgical and medical. The general recognition accorded these teachings had far-reaching and, in the main, satisfactory results. It is rare, indeed, these days to come across cases of so-called postscarlatinal muscular weakness which remain undiagnosed for what they really are; namely, labyrinthine involvements with consequent loss of muscle orientation: and today no pediatrician worthy of the name attempts a physical examination of a child without including a satisfactory examination of its ears. As one eminent authority put it, the ear speculum is as necessary to the pediatrician as is his clinical thermometer or his stethoscope.

This is as it should be. Nevertheless, I come before you this evening not to urge a course of therapy, but to sound a note of warning and to ask your serious attention to certain factors in the problems these little patients present for your consideration and discussion.

In the first place, certain misconceptions are entertained, not only by general medical men, but to an appreciable extent, by the laity. In the interests of clarity, and in order that what follows may be the better understood, let me state my conclusions

¹ Read before the Eastern Medical Society, New York City, November 12, 1920.

first, and then the arguments upon which they are based.

Paracentesis, or incision of the drum-head, does not prevent operative mastoiditis.—In a long series of cases under the writer's observation, which cover many years of special work, he has found that as many cases come to operation where the paracentesis is performed as early as the indications for it warrant, as are cured without eventual mastoid operation. The elements which produce mastoiditis requiring surgical intervention are to be found in other factors than in the performance or non-performance of the so-called early paracentesis. Among these elements let it suffice to call attention to the mechanics of mastoid pathology, wherein one finds that the cases which come eventually to operation do so, evidently, because of factors inherent in themselves—the nature of the preexisting systemic infection, the exhaustion of the body economy by such infection, the character of the invading organism and the type of the lesion which develops from its initial onset in the mastoid process. It is not desired here to go into a technical discussion of these factors. What is desired is to correct the current impression that paracentesis will prevent so-called operative mastoiditis, so that when, for any of the above reasons, a mastoiditis requiring surgical intervention eventually does develop, no unfounded blame is attached to the physician who performed the incision of the drum-head because such procedure on his part failed to avert the surgery on the mastoid process.

We are not, of course, concerned here with those cases of simple otitis media purulenta wherein there is no question of mastoid involvement raised. Such cases constitute a different group of patients, the

majority of whom make an uneventful recovery after incision into the drum-head.

In passing, it may not be amiss to ask attention to the indications for the so-called paracentesis. This little surgical procedure requires as nicely a balanced judgment as does any other operation, and it should not be performed promiscuously or indiscriminately. The fact that a child presents a slight temperature, complains of pain in the ear and, upon examination, exhibits a reddened drum, without bulging, is no indication, even in the absence of any other definite diagnosis, for opening that drum. The therapy for acute catarrhal otitides—which is, in many cases, the condition presented—is not to be sought in surgical intervention. Often it seems the easier way out of the problem—for the pediatrician. He often fails to recognize the lesion for what it is; namely, acute catarrhal otitis media rather than acute purulent otitis. He can cut into the drum-head to relieve the latter, but it is hardly to be expected of one whose work lies in other fields that he be expert enough to recognize the former. When he does incise the drum under these conditions, there is obtained a flow of serum from the ear lasting from a few hours to a day; and then one of two things happens: either, the middle ear having remained sterile (its normal condition), the drum-head wound heals by primary union; or a secondary infection from without supervenes and there then develops secondarily a purulent otitis which might not have eventuated had there been no incision made into the membrana tympani.

On the other hand, those who examine many children in the acute febrile systemic infections, to which they are prone, know that the reddened drum-head is a finding common enough in such cases. A longer

period of observation would permit the evolution and development of what is, at that stage, the incipient clinical picture; and thus the case would be placed in some other category than that of the otitides. How common it is to find the pneumonia developing the second day after the paracentesis which brought forth no pus from the ear, to cite only one instance from numbers of such cases.

To err is human, and the law of averages holds for mistakes as well as for any other human activity; but surely the medical practitioner who repeatedly sees such findings may be pardoned for pausing and questioning the advisability of a procedure which incises a cavity, presumably filled with purulent contents, which failed to show any signs of evacuation upon being opened. Let us agree, at least, upon one thing: Ear-drums shall be opened to evacuate pus, and for no other purpose. They shall not be opened to relieve otalgia. For this other therapeutic measures are available.

The significance of the above once accorded, the next proposition is comprehensible. Again the conclusion is presented first, namely,

Repeated paracentesis not only does not prevent the development of an operative mastoiditis, but is in itself poor therapy which often results in permanent functional disability to the patient.—The functional disability, the loss of hearing acuity which results from repeated attacks of acute catarrhal otitides, is too well known to need repetition. This functional disability results from the formation of intratympanic adhesions and permanent contractures in the delicate structures of the middle ear. How few stop to consider the functional disability which must result from the oft-repeated incisions into the drum-heads of these little patients!

Cases have been met where paracentesis was performed four times in as many days upon the same patient during the recent influenza epidemic. Those guilty of this practice do not see these patients later, when, because of loss of hearing, they become handicapped in their studies or in their vocations and come to us for relief, when the onset of their loss of hearing can be traced to the traumatized middle ear which occurred in early life. The permanent perforations, the scar tissue replacements and the adhesive bands which are found are all traceable, to a great extent, to this deleterious practice of repeatedly incising the drum-head.

An incision of the membrana tympani to evacuate pus, properly performed, should require no repetition; and where this practice is indulged in, where no flow of pus has eventuated, it seems to your essayist a nefarious one. A patient presents a systemic infection, runs a temperature and has reddened drums; and a physical examination is negative. The throat may be red. The drums are incised. No pus is obtained and, in a few days, the general clinical picture persisting and a subsequent examination revealing general negative results, the ears meanwhile having, fortunately, attempted to close, paracentesis is again performed. Meanwhile, the systemic infection continues, and thus matters go on for another few days, and the ears are again incised. It seems in some cases as if Nature eventually gratifies the persistence with which the one practicing this kind of otology seeks pus where there is none, by sooner or later presenting a secondarily infected ear; and then the case is thought to be understood. But the temperature drops because the systemic infection has run its course; and the patient emerges from the sick

room with a secondarily infected middle ear superimposed upon a body weakened by a general systemic infection; and is a proper candidate for eventual mastoid involvement.

The rôle played by the repeated paracentesis in inducing the condition is hardly comprehended, and one should really classify such a case as a traumatic mastoiditis rather than as one of the sequelæ of a systemic infection. I may be pardoned for overdrawing the suppositious case so as to point the lesson more strongly, but during the last winter, case histories analogous to the hypothetical one given above have been met with oftener than one would like to acknowledge.

In regard to this proposition of repeated paracenteses, another group of cases comes under observation. These are cases on whom a paracentesis has been performed based upon well founded indications; and in the course of a week or ten days the disease in the middle ear is attempting to run its course and come to its termination. As these cases reach their terminal stage in the process of resolution, the discharge is finally becoming more scant; and then, because of some indiscretion in the child's diet or for any other extraneous reason, a slight elevation of temperature ensues with the result that, the clinical condition in the ear not being recognized as being in the stage of resolution, paracentesis is again performed upon a drum-head which is tending to close and end the chapter as far as that particular otitis was concerned; but the attending physician or pediatrician upon that case prevents, by his repeated paracenteses, natural resolution. Had he left that ear alone during this period of resolution, the drum would have closed as the pressure within the tympanic cavity came down to normal, and eventually a normal middle ear would have

resulted; but his secondary paracentesis again opening up the cavity, while the mucous membrane lining the middle ear is still thick and edematous from the infection which is just about to run its course, the infection lights up again and the structures which have just about been able to maintain themselves against the primary invasion offer a weakened resistance to the secondary attack; and from this secondary infection there eventually results a so-called surgical case of mastoiditis. Or, the purgative or other remedial agent which the wise practitioner has also administered has accomplished its purpose and the temperature drops; and this result is ascribed to the secondary paracentesis. I have met cases where Nature was crying for the privilege of healing an ear, and where injudicious interference kept it open until a "hands off" policy in regard to the ear was insisted upon, when all that was needed was two or three days' time for the ears to cure themselves. There is urgent necessity for those handling these children to recognize that an otitis has an inherent right to resolve, and that the stage of resolution should be accorded the significance it warrants and interference with resolution by secondary paracentesis avoided. You may claim that expert opinion is necessary to recognize this stage of resolution, but my contention rests herein—that those who assume the responsibility of managing such cases must either qualify themselves to comprehend this situation or seek such expert counsel.

Finally, cases are met with in which the evolution of a classical mastoiditis is in being, and frantic attempts to ward off the impending surgery on the mastoid process are made by the practitioner, whose efforts are mainly directed toward incision and re-incision of the drum-head. Far better for

the patient's future health and welfare is it to meet the situation squarely by operative intervention upon the mastoid process than to attempt to ward off the impending surgery by repeatedly incising the drum-head, with all the deleterious features pictured above as end results, to be carried thru the patient's life as a permanent handicap; for simple mastoidectomy terminates in a healed ear which is functionally active, with hearing as normal as would have been the case—all other factors being equal—had there been no mastoid operation performed.

In concluding this argument on repeated paracentesis, it is germane to the question to say that such an attempt to ward off the impending surgery on the mastoid process usually fails to accomplish the object sought, for the reasons laid down in the first proposition advanced this evening—that neither the paracentesis nor the repeated paracentesis is in itself a factor which prevents the development of a so-called surgical mastoiditis. To illustrate this last proposition, I will cite the following case history because it points the lesson, not only of the propositions which have gone before, but of one other proposition which I will discuss with you this evening. The case history follows:

On May 11, 1920, S. K., aged six years, was admitted to the Park Hospital. Three weeks previously, subsequent to an attack of measles, the child began to complain of pain in the right ear, soon followed by involvement in the left, also. Five days later, double paracenteses were performed, followed by a profuse otorrhea for two weeks, when the left ear stopped discharging. During this period, temperature elevations were high, and the left ear was again incised, but no discharge of pus was obtained. One week before admission, with temperature elevations as high as 103-104, both ears were again incised because of the absence of discharge from both middle ears. There was no complaint of pain locally. The temperature continued, ranging up to 104, for four days, when severe persistent headache was the chief complaint. The attending otologist again incised the ear-drums, obtaining a discharge which lasted about twenty-four hours, only. The temperature and cephalalgia continued, and some

edema developed about the right ear. A radiogram of the mastoid was negative.

The writer, who was called in consultation that day, found the patient septic, with chilly sensations but no pronounced chills, a temperature of 105, a slight discharge from both middle ears, a beginning Kernig and some rigidity of the neck. At this time, no other abnormality was noted. The mastoids gave no classical symptoms.

Cultures were at once taken from the ear discharges, a blood cell count was made and a blood culture taken. Till the time of the writer's visits, no laboratory aids to diagnosis had been used, and a tentative diagnosis of sinus thrombosis, which he made, was based therefore on the history of the case and its clinical picture, and was arrived at by a process of eliminating any other sources of the sepsis which, until that time, had been unaccounted for. It was extremely difficult to convince the medical attendant and the pediatrician who had been called into consultation as to the involvement of the ear. The absence of the discharge during the high range of temperature had failed to be accorded its due significance, and an expectant attitude had been adopted awaiting a more definite development of the clinical picture.

The culture from the discharge from the ears gave pure culture of pneumococcus. Following a preliminary negative report on the blood culture, the final report gave the streptococcus hemolyticus. The blood examination showed a leucocytosis of 39,000, with a differential count of 78% polynuclears, 20% small, and 2% large, mononuclears. Hemoglobin, 80% (Sahli). Red cells, 4,200,000. Color index, 0.95. No nucleated red cells.

Examination of the urine showed it to be turbid; amber in color; acid in reaction. There were heavy traces of albumin, no sugar, heavy trace of acetone, but very faint trace of diacetic acid. Microscopically, there were a few leucocytes and some pus clumps. No casts nor crystals.

The diagnosis was then conceded and the child admitted to the hospital.

The final proposition that I wish to present this evening in the light of a critique is this:

That mastoidal infections in children indicating surgical intervention may be present, and there need not be pain, either subjective or objective, as a symptom; nor need there be a high temperature accompanying the phenomena, although in children there usually is.—The differential diagnosis between acute purulent otitis media in children and this, the painless type of mastoiditis, depends on the finding of profuse, excessive discharge, and on the fact

that in acute otitis media the temperature soon drops, while in this type of mastoiditis the temperature may persist; altho in adults the temperature factor is not to be considered.

It requires no stretch of the imagination nor much argument these days for any one to recognize classical mastoiditis. The pain on pressure, the induration over the process, the sinking of the posterior meatal wall, the temperature, the discharge, the bacterial flora in the discharge and the history of the systemic infection standing in pathogenic relationship to the ear picture are all well understood and are usually promptly recognized, but the ear which has been opened once or oftener and which is discharging pus, the patient meanwhile being comfortable as far as the ear is concerned, running a temperature intermittently or steadily, very often not exceedingly high,—these cases come under the group heading of the painless type of mastoiditis and are often overlooked until the stormy clinical picture of one or another of the intracranial infections makes its appearance.

Pain in the ear is due to two causes—to pressure of retained purulent secretions, or to a periostitis when the lesion has reached the outer covering of the process. In the class of cases which I am discussing, these factors are absent. A false sense of security is thereby engendered.

The lesion is, however, easily recognizable by a knowledge of its salient features. A profuse discharge from the ear, disproportionate in amount to what could reasonably be expected to come from so small a cavity as the tympanum, generally running from the external auditory canal onto the cheek, and at night, or when the patient is lying down, making a pool of pus on the pillow,

with little or no mastoid tenderness, is all that is generally present, subjectively or objectively.

In the case history cited above, the patient at first had a free flow of pus and the painless type of mastoiditis went unrecognized. Later, when the condition had run its course within the middle ears, these became dry, and the lesion which then caused the clinical picture had its seat in an infection of the blood vessels (sinus thrombosis) and the meninges.

In conclusion, the tendency these days to rely on laboratory aids to diagnosis manifests itself in some in an attempt to place diagnostic reliance upon radiographic findings. To those who think on the matter at all, the nature of the infantile bones and the absence of definite cell structure until later in life would make the conclusion inevitable that the use of the radiogram for diagnostic purposes in children is negligible in value.

51 West 73rd Street.

POSTOPERATIVE MANIFESTATIONS OF SYPHILIS; WITH CASE REPORTS.¹

BY

WILLIAM SPIELBERG, M. D.,

New York City.

Case 1. S. G.—Patient is 13 years old. On June 27, 1919, he presented himself at the Ear, Nose & Throat Clinic of Beth Israel Hospital. Department of Dr. Kopetzky.

I examined the patient and found the following:

Rhinoscopic examination:—A profuse, yellowish, purulent discharge of marked foul odor completely filling up both nasal fossæ. On clearing away this discharge by suction, a perforation of the cartilaginous portion of the nasal septum was revealed, with the anterior border of the perpendicular plate of the ethmoid protruding forward and almost in contact with the right outer nasal wall; on slight manipulation, a large portion of the bony septum came away

¹ Read before the Eastern Medical Society, New York City, November 12, 1920.

covered with crusts, pus and blood of intense foul odor, and found to consist of perpendicular plate and vomer, leaving a large perforation of the nasal septum involving both bony and cartilaginous portions; the remaining portion of the septum being swollen and covered by small areas of ulceration. The middle turbinates were markedly congested and bled easily to the touch of the probe, and almost touched one another thru the septal perforation. The floor was also covered by areas of ulceration and irregular swelling extending posteriorly to the soft palate.

Examination of the mouth and oropharynx:—Marked dental caries, tonsils and pillars absent, soft palate edematous with perforation just above and to the right of the uvula.

Laryngeal examination:—Negative.

Otoscopic examination:—Congestion of Shrapnel's membrane, bilateral.

These findings in a child of this age appeared to me to be unusual, and seemed to be rather the result of some general constitutional disease.

The following interesting history was obtained from his mother:—One and a half years before patient presented himself at our clinic, he had his tonsils and adenoids removed for the relief of nasal obstruction and mouth breathing. No relief followed this operation; in fact, the nasal obstruction became aggravated and was accompanied by a constant muco-purulent nasal discharge, headaches and neuralgia pains at the root of the nose and face. After a lapse of seven to eight months it was thought that perhaps not enough of his adenoids had been removed or that there might have been a recurrence of the same; and patient was subjected to a second curettement of the adenoids. This was followed by complete nasal obstruction, marked nosebleeds, profuse, foul, purulent nasal discharge, severe headaches, marked restlessness and irritability and very disturbing nocturnal enuresis.

Family history:—Mother had three miscarriages. Occasionally she gets new growths of chest wall which break down, ulcerate and heal with big scars.

Wassermann tests taken of the entire family gave the following results:

Patient four plus.

Mother two plus.

Father and two other children negative.

Diagnosis:—From the above history and findings I made the following diagnosis:—Congenital lues with gummatous infiltration of the nasal cavities and soft palate, incited by trauma following the operation for removal of tonsils and adenoids.

Treatment:—Patient was referred for immediate and vigorous anti-syphilitic treatment in the department of Dr. Levin.

Case 2. Mrs. F.—Patient is 42 years old. Previous history is negative. Had five miscarriages. Six children alive and well.

Present history:—Nine years ago patient was accidentally hit on the nose, following which she began to suffer from intense headaches and pain at the root of the nose and face, worse at night. After two years of suffering, and not

having obtained any relief, patient applied to some New York clinic, where a minor operation was performed. Instead of being relieved, the above-named symptoms were intensely aggravated so that the patient, after a few months of more suffering, consented to a second and more radical operation, namely, a submucous resection of the nasal septum. Following this operation there was no improvement; in fact she felt worse, developed a profuse, purulent nasal discharge of intense foul odor, frequent nosebleeds, and at the end of one year following this operation, saddle-nose deformity. On June 30, 1919, this patient was referred to Dr. Kopetzky's Clinic at the B. I. H. by Dr. Levin's Clinic for Skin and Syphilis with a request for examination and diagnosis of the nose and throat condition. I examined the patient and found the following:

Rhinoscopic examination:—Revealed an extensive perforation of the nasal septum, involving the greater part of the cartilaginous and bony portions, areas of irregular swelling and ulceration of the remaining portion of septum. Atrophic rhinitis and accompanying ozena and pansinusitis as revealed by subsequent X-ray examination of the accessory sinuses.

Throat:—Examination revealed thickening of the soft palate with perforation of same to the left of the uvula.

Laryngeal examination:—Negative.

Otoscopic examination:—Retraction of both drums, light reflex absent, calcareous deposits, both drums.

Wassermann reaction:—Four plus.

Diagnosis:—Tertiary syphilis with gummatous infiltration of the nasal septum and soft palate following nasal operation, with subsequent ulceration, necrosis, scar formation and contracture, resulting in saddle-nose deformity.

Treatment:—Both cases have received treatment at Dr. Levin's department and at our clinic.

Case 1.—Received mercury and salvarsan injection, following which nasal obstruction, headaches, and restlessness disappeared. The nocturnal enuresis did not subside until patient was put on extract pituitrin whole gland grains 2½, twice a day, which controlled this symptom after its administration for two to three weeks.

Case 2.—Received the same treatment with resulting improvement and final disappearance of the ozena, partial closure of the soft palate, with marked improvement in the headaches.

Both cases are still under treatment and observation.

Conclusions.

1. Before operating on any case of the nose or throat, make sure to rule out syphilis, which can easily be done by a careful history; and if suspicious, do not hesitate to take a Wassermann.

2. An early diagnosis is essential in these cases, so that immediate and vigorous anti-syphilitic treatment can be commenced before scar formation and contracture begin.

3. Traumatization of tissues in a syph-

ilitic patient frequently causes gummatous infiltration in and about the field of operation, with subsequent ulceration, necrosis scar formation and contracture.

211 Henry Street.

POSTOPERATIVE NASAL SEPTAL ABSCESS WITH LATENT SINUS INFECTION; WITH CASE REPORT.¹

BY

ALFRED A. SCHWARTZ, M. D.,

New York City.

Case Report.—A. P. S., a chemist, age 28, first came under observation in 1916 with symptoms of an acute frontal sinusitis. Ever since he could remember he had had a purulent discharge from his nose, moderate, of yellow color, which he had considered normal.

An X-ray at that time showed marked clouding of the right frontal sinus only, the other accessory nasal cavities appearing normal. Under local treatment, astringents and suction, the infection cleared and an X-ray at a later date showed all the sinuses to be entirely clear.

In October, 1919, the patient again came under observation, complaining of a profuse nasal discharge, yellow green in color. Every few months since the attack of frontal sinusitis in 1916, there had been attacks similar to the present one, always accompanied by a sense of fullness and pressure in the head, not localized; but there was no fever during these, nor were there symptoms which compelled him to stop work. Breathing between attacks was fair, but while they were present, nasal respiration was impossible.

Upon examination both nares were found to contain a moderate amount of yellow pus in the inferior meatus; when this was removed there was none produced by suction. There was a marked cartilaginous deflection of the septum to the left, almost occluding the left nares, a deflection of the perpendicular plate of the ethmoid to the right, in contact with the middle turbinate, and a sharp vomeric crest which pressed against the right inferior turbinate. Only with difficulty could a probe be forced between the septal deflections and the turbinates on the right side.

Under local treatment the symptoms disappeared and the discharge stopped; and an X-ray of the sinuses, taken by Dr. Charles Gottlieb, was reported as negative.

On November 6, 1919, a submucous resection was performed in the usual manner, without unusual trauma, the flaps separating easily; and the deflected septum was removed. The nares were packed with vaseline gauze.

On the following day the gauze packing was removed. The septum appeared thin and there was no bulging.

Forty-eight hours after operation the temperature suddenly rose to 104, and the patient began to complain of severe headaches, had several chills, and was prostrated. General physical examination was negative. In the nose there appeared an oval swelling between the two layers of the mucosa, immediately behind the original mucous membrane incision. This swelling was opened at once, and a few minims of thick mucosanguineous fluid escaped.

The symptoms continued unchanged, the fever ranging near 104 and the prostration increasing. On the following day Dr. Kopetzky saw the case in consultation. The entire naris was now occluded by the swelling. The previous incision was reopened and a few drops of white pus escaped. The mucous membrane on this side was then incised to the entire extent and the abscess cavity cauterized with carbolic acid and alcohol.

Almost immediately the temperature dropped, and the next day it was normal. Convalescence was uneventful and the coadaptation of the flaps perfect.

There persisted, however, a discharge from the nares, yellow, purulent; and an X-ray was again taken. The right antrum was found distinctly clouded. Puncture revealed a large amount of thick, white pus in the cavity. Under irrigations of the antrum followed by injections of weak solutions of AgNO₃, the condition cleared.

Since this period, the patient still has, off and on, a slight, purulent discharge from the nose; but even at these times there is no headache nor sense of fullness. Nasal respiration is easy and the nares are clear.

Comment.—The patient is a chemist who, as head of a chemical research laboratory, had been working for years in fumes of chlorine gas and others equally irritating. Four years ago he had had an acute frontal sinusitis which had apparently healed spontaneously.

When he appeared for examination in October, 1919, there were no localized signs of sinus infection, no pus on suction; and an X-ray was reported as negative. The septum was obstructive, and this was removed, six weeks after the onset of the acute rhinitis, and two weeks after the nasal symptoms had disappeared.

Then followed the septal abscess; and, as the danger of meningitis from such a condition was fully realized, it was immediately incised. At first no pus was obtained, and at the second incision, only a few drops; *but when the flap was laid wide open, the symptoms immediately disappeared.*

Then followed the empyema of the right antrum, but without constitutional symptoms. This may have been due to the packing, or post-operative swelling causing occlusion of the ostium maxillare and lighting up of a latent infection of the antrum.

The question arises, of course, as to whether sufficient time had elapsed between the cessation of the discharge and the time of operation, it must be borne in mind that, at the time of

¹Read before the Eastern Medical Society, New York City, November 12, 1920.

operation, the nares were entirely free from discharge of any sort and the mucosa appeared normal. Besides, the patient had been having these acute attacks so frequently that it seemed best to proceed at once and remove the obstruction to drainage.

The treatment of postoperative septal abscesses is important—the flap of mucous membrane must be laid open completely and the abscess cavity exposed and thoroly cauterized. Carbolic acid followed immediately by alcohol is probably better than any other, and was used in this case. There is, in these cases, an ever present threat of extension to the meninges thru the cribriform plate of the ethmoid.

51 West 73rd Street.

PANSINUSITIS; FRONTAL SINUSITIS; WITH CASE REPORTS.¹

BY

CHARLES N. GELBER, M. D.,

New York City.

Pansinusitis, Operation, Recovery.

Case 1.—Miss P. D., dressmaker by occupation, was first seen on September 20, 1920, complaining of difficult breathing, frontal headaches, nausea (discharge falling into throat), and a free purulent discharge from the nose.

Rhinoscopic examination showed a marked nasal deflection with a spur on the right side. Pus below the inferior turbinate and between the middle turbinate and septum on both sides. Transillumination as well as the X-ray showed involvement of all the sinuses on both sides—thus we were dealing with a case of double pansinusitis. The X-ray revealed some root abscesses of the teeth, which were corrected by proper dentistry.

I then washed both maxillary sinuses daily for an entire month with various solutions, such as boric acid, physiologic saline, permanganate of potash, 1% chlorazene solution, with but little result. Later in October, 1919, after 6 weeks' observation, under cocaine anesthesia, I did a submucous resection and the patient made an uneventful recovery, the headaches disappearing promptly. However, as the nasal discharge persisted I continued daily washing of the maxillary sinuses for two months longer, with but little avail. I then did a double middle turbinectomy, exenterated the ethmoid cells and opened the sphenoids.

The patient made an uneventful recovery, the superior nasal chambers becoming clean under treatment. However, pus persisted and could be seen under the inferior turbinate bodies, indicating a persisting focus of infection, which proved to be the antra upon irrigation. In August, 1920, I opened both canine

fossæ, cleaning out the granulations within the antrum of Highmore under direct inspection. The choice of the more conservative operation was due to the fact that there was no bone necrosis, and I could thus save normal functioning inferior turbinate bodies.

It is now two months since her last operation; and the patient has no frontal headaches, no difficulty with breathing, no nausea. The purulent discharge has almost entirely disappeared. There is a slight excess of mucous discharge. The patient has improved in appetite and gained in weight.

This case shows it is possible to completely relieve the symptoms of a chronic pansinusitis providing the patient is faithful and willing to follow our advice even to the extent of submitting to two or three operations.

Frontal Sinusitis, Operation, Recurrence; Cure Under Endocrine Treatment.

Case 2.—Mr. S. C., 34 years old, presented himself for treatment August 28, 1918, with excruciating headache over the right frontal and orbital regions. There was a free discharge of pus from the right side of the nose. Pressure over the right frontal region elicited extreme tenderness. The headaches were more severe during early morning hours, than at other times. There was a slight dizziness and vertigo, aggravated by stooping, or if in a stooping posture when the patient arose. The Wassermann test was negative; urine negative. Eye strain was ruled out by having the patient close his eyes and getting no relief, nor any relief upon retiring at night. Transillumination and X-ray showed a distinct involvement of the right frontal sinus. Rhinoscopic examination showed a marked high nasal septum deviation toward the right. The obstruction was complete, so that I could not even pass a small probe. Six weeks' treatment by suction and local application of astringents cleared up the purulent discharge. I then did a submucous resection, paying close attention to the removal of the perpendicular plate of the ethmoid so as to permit drainage of that frontal sinus. The patient made an uneventful recovery. Three weeks after that, under local anesthesia I did a tonsillectomy, as his tonsils were a focus of infection, also removing some lingual tonsils that seemed to irritate his throat and produce a cough.

The patient was apparently well until three months ago, when he presented himself again with severe right frontal headaches, not quite as severe as that of 2½ years ago, nor was there any purulent discharge. He was somewhat tender over the right frontal region. Transillumination and X-ray showed a right frontal shadow. Rhinoscopic examination showed a straight septum, marked tumefaction of the mucous membrane of the septum and inferior and middle turbinates of both sides. There was no pus visible in the nose, no signs of bone necrosis. Local astringents treatment for four weeks gave no relief. I therefore suspected some constitutional disturbance and suggested that he be examined for endocrine dyscrasia.

¹Read before the Eastern Medical Society, New York City, November 12, 1920.

The findings pointed to hypothyroidism and hypopituitarism. I then put him on a half capsule, morning and evening of Harrower No. 2, thyro-pituitary compound. At the end of three weeks the patient's headaches disappeared, the general well-being improved together with the local infiltration. This treatment directed to his systemic rather than his local manifestations resulted in a complete cure of symptoms so severe that the patient himself had suggested an open frontal operation.

231 East 13th Street.

MAYBE IT'S YOUR OWN FAULT IF YOU DIE TOO SOON.

BY

WILLIAM H. PORTER, M. D.,

Professor Emeritus of Pathology and Clinical
Medicine, Post-Graduate Medical School
and Hospital,

New York City.

There are more human beings growing up to a worth-while productive age than ever before in the history of the race; there is less wastage of man-stuff than the world has ever known, for we are not dying nearly so early, nor with nearly so much abandon as we used to. There are a thousand different causes to explain this—a legion of reasons operating to lengthen our span.

However, even with the increase in longevity and the splendid gain we have made in beating off the grim old chap with the long, sharp scythe, we are still far from achieving what would be eminently possible, a longevity of one hundred and sixty years—our just dues, were we only to live in half-way decent conformity with natural law and with the science that lights the dusky paths leading to the Kabala of the truth.

Now, there are as many causes that operate to shorten life as there are things that can happen to the human body.

The Midwife, a Relic of Olden Days.—Per-

haps the first of these, in chronologic order, is the rough-and-ready midwifery practiced in many sections of the country, where the boards of health are still in a lethargic or semi-somnolent mood respecting one of the most critical epochs in the life of a human being—its birth.

So many things may happen in the accouchment chamber that can wreck the future of even an Alexander or a Leonardo Di Vinci that the dictates of the most elemental principles of common sense should indicate our need for closer supervision of this process.

There can be no time when the need of skill and good judgment is more necessary than in the birth room. Injudicious manipulation, or undue force wrongly exerted, may, and frequently does, result in spinal cord injury, or in some other accident—the consequences of which may mar the entire life of an individual.

Grave lesions, resulting in various forms of paralysis, or in some "twist" that inhibits for life the proper circulation of the blood, or the normal physiologic functioning, are a not infrequent sequel of half-baked midwifery.

Removing or diminishing the mortality from reckless or ignorant midwifery is merely a matter of securing to every woman in labor the services of a carefully trained physician, competent to render every assistance, and taught the proper method of so manipulating the child that crippling, life-shortening injury may be avoided.

Mothers Don't Feed Babies So Many Bugs.—The next most frequent reason for untimely death is a little more ignorance—ignorance this time of the indispensable need for natural nursing—for mothers to provide, if it is at all possible, for the nutri-

tive wants of the children they have brought into the world.

A child fed on mother's milk has a fifty per cent. better chance of passing his second birthday than he would have were he fed on a milk modification—as put up in the average slovenly way.

Of course, if the mother is unable to nurse her baby, a proper milk modification must be resorted to. I have gone somewhat extensively into the subject of properly proportioning the milk in my book "Eating To Live Long"—brought out by Reilly & Lee, of Chicago—and have given elaborate tables, which can be readily followed, but this is somewhat aside from our immediate subject.

If clean, whole milk can be secured, this should, by all means, furnish the basis of the baby's food. For pasteurizing, or the infinitely worse sin of scalding the milk—which is practiced by many—destroys the vitamins and other living principles, indispensable for proper nutrition and growth.

Heat also renders the casein tougher and more indigestible—less like the flocculent curd found in mother's milk.

On the other hand, the great majority of people, living under economic conditions which make a mirage of certified, high-grade milk, find pasteurization indispensable.

And as between the evil of giving the baby a half million or so of living pathogenic germs in each cubic centimeter of milk, and the evil of killing these germs, and at the same time destroying the vitamin content of the milk, the choice must inevitably rest with the latter alternative.

Pasteurization a Baby-Saver.—In fact, the statistics gathered respecting the splendid philanthropy of Nathan Strauss prove con-

clusively that the pasteurizing which he made possible and popular for scores of thousands of families, has saved an army of lives and has gone far to write a golden page in the annals of progress toward the greater longevity of the race.

I might here add, however, that if the modification of top milk, sugar of milk, milk of magnesia or lime water, and sterile water—which ordinarily constitutes a milk modification—does not agree with the child, in the majority of cases the use of kalak water—a water particularly rich in phosphates and calcium and potassium salts—used instead of the tap water, will activate the normal digestion and assimilation of the food. Add to this c. p. dextrose instead of milk sugar, when the digestive energies are at a very low ebb, and a still more available diet will be secured. Many a life will be saved that otherwise would die from inanition.

In my experience, the very worst cases of marasmus and inanition in children have been overcome by this simple procedure—a procedure which any ordinarily intelligent mother can carry out.

Everybody More Intelligent.—And right here it must be emphasized that the average of intelligence among mothers is decidedly higher than it ever has been. There is a much more general diffusion of knowledge concerning the sterilization of bottles and nipples, the evil effects of flies, dirty fingers and filth, and the fatal consequences of corned beef and cabbage in infant interiors.

Consequently, the dreadful mortality from "summer complaint" and cholera morbus, which used to carry off their thousands and scores of thousands of victims every summer, are almost a thing of the past.

And this is the one great big factor in which the human race has made progress toward a haler life. The slaughter of the innocents has been stopped by the advent of the magazine and newspaper article, the school lecture, the visiting nurse, the "milk station"—in four or five languages—and the general increase in knowledge concerning the deadliness of pathogenic microscopic bugs.

It is this conservation of infant and child life and the fact that the great lethal epidemics that used to ravage the world have been overcome by education, which is responsible for so many more individuals reaching a fairly advanced age, and raising the longevity rate from its twenty-eight years in our grandfathers' time to the present forty-three years.

What Surgery Has Done to Lengthen Life.—It must be admitted, also, that the advance in surgical technic has increased the chances of a larger number of people living long enough to die of old age. But this altruistic work of the surgeons, to my way of thinking, has been less important in this connection than many surgeons are deluded into believing.

For, while the death rate from appendicitis, for instance, has been reduced from 67% to 2% or less, and while the mortality following some few other major operations has been somewhat reduced, nevertheless it is a fact that many surgeons have, by their success in technical proficiency, entered into the Lady Macbeth attitude of mind.

This virtuous and highly ambitious dame, you remember, said feelingly: "That which hath made them drunk hath made me bold." And they are.

But many more people die of this overboldness than would die of a well-consid-

ered conservatism—which would give thousands of ostensible cases of gastric ulcer, gall-stones and other speculative disorders a fair chance at the hands of a competent medical man.

Indeed, I am at present treating one poor soul who was operated on for about everything that any diligent surgeon could operate for, except the thing that ails her—intestinal indigestion.

Another case of "hour-glass contraction" of the stomach walls has just had the narrowest of escapes from being operated. She has atonic dyspepsia. And these are only two among hundreds I could cite.

Preventive Medicine and a Large Knowledge of Food Values the Chief Creditors.—Among all the other causes for increased longevity there are, to my mind, two which stand out conspicuously. These are the achievements of preventive and curative medicine, which include all the advances made in biologic research work and immunization, and the larger knowledge of the chemistry of food and the functions of nutrition.

Among the most important advances of preventive medicine are the practical obliteration of the great cholera epidemics which used to carry off at times full fifty per cent. of the population. We shall probably never again in human history have to listen to the rumble of the dead wagon, and hear the raucous cry, "Bring out your dead."

Cholera morbus and cholera infantum, as I have intimated, are also disorders of a bad, old past—a past that thought not of disease germs and their dangerous activities.

Diphtheria, with its former formidable death rate of 42%, has been brought

down to less than 4%, by the advent of antitoxin, we must believe. Yellow fever, since we learned the function of the *stegomyia* mosquito and since we learned how to drain off her pestilential breeding places, is no longer a factor in civilized life.

Typhus is stamped out in armies by the simple expedient of sterilizing clothes, and coming as near to sterilizing hair and bodies as natural law in the physical world will permit.

Typhoid, since the introduction of the anti-typhoid vaccine and since the infinitely greater work of purifying water and milk sources has been done, is a relatively infrequent disease these days.

And so with malaria. And so with syphilis and gonorrhea, as long as the men were under strict military discipline, properly provided with antiseptic preventives of disease, the use of which would, if encouraged, absolutely stamp out these life-shortening disorders.

What We Are Doing to Focal Infections.—And so also with focal infections—in teeth, tonsils, prostate, in the hollow bones of the face and head, and wherever germs breed in infected areas. These the dentist, the surgeon, and the physician are eradicating so that the sum total of human health and longevity must inevitably be increased by this wonderfully constructive work.

One of the most vital and important factors in health and life conservation, I am convinced, is the selection of a proper diet.

As at present practiced, this is a two-edged sword. For while those who understand the disastrous consequences of mixing fruit acids, proteid and starch all up in one fermenting mass, avoid this diversion, and thereby increase their physical fitness, there are millions more to whom grape-

fruit, oatmeal and cream, and buckwheat cakes and a drench of syrup are an almost daily offense.

What Mixed Foods Do.—The deleterious consequences of mixing chemically incompatible foods, or food combinations which are certain to develop fermentative changes, are evident in the tremendous increase in the mortality from arteriosclerosis, "Bright's," diabetes and other disorders which have their origin in the over-production of uric acid and the accumulation of under-oxydized products in the system, and the increase in blood tension.

In my book, "Eating To Live Long," I have shown how the selection of a rational diet will overcome a condition that ordinarily might be pronounced fatal, or at least ineradicable.

These changes at times are almost miraculous—especially when the dietary régime is assisted by the proper and intelligent selection of so-called medical agents, which really act as foods of a higher chemical potentiality, when physiologically administered.

These medicines enable the system to secure necessary food substances and to develop the perfect metabolism which Nature, in sub-vital conditions, cannot acquire without assistance.

It is the failure to combine proper medication with a properly selected diet that accounts for the growth of therapeutic nihilism in this country, and that explains why so many millions among our people are living physically restricted lives.

In my book I have laid down a rather complete dietary régime—a régime which has relieved thousands of cases of disturbed metabolism, and which, if followed minutely, will uniformly relieve metabolic dis-

orders. But this matter is somewhat too involved for the scope of the present article.

Suffice it to say that the recognition of fundamental physiologic and hygienic truths is becoming more general, for universal intelligence is increasing. Men and women know more about how to live than they ever did before in the history of the race.

Many of them are profiting by this knowledge. Many more will profit by it when they get a little more sense than they now have—all of which is a consummation devoutly to be wished.

46 West 83rd St.

GONOCOCCIC METASTATIC JOINT AFFECTIONS. (GONORRHEAL ARTHRITIS.)

BY

N. E. ARONSTAM, M. D.,
Detroit, Mich.

In the writings of Hippocrates mention is made of the occurrence of joint affections during the course of gonorrhea; occasional references are met with in the works of writers of the medieval centuries. More attention, however, has been paid to it during the first half of the 19th century in the admirable essays of Cooper, Ricord and others, where great stress is laid upon the clinical history of gonorrheal arthritis. Some authors since that time have ascribed the affection of the joints to the absorption of the gonorrheal toxin; others again discrediting this theory, attributed this malady to reflex and diathetic disturbances. The former based their assertion upon the observation that irritation of the urethra is at times apt to engender joint swelling; the latter were in accord with the trend of the

times to conceive nearly all morbid conditions from the standpoint of reflex action and diathesis.

A few years after discovery of the gonococcus, Petrone in 1883 microscopically demonstrated the presence of the organisms in the joint exudate. Succeeding him, Rendu in 1893 has culturally demonstrated their existence in the synovial fluid.

Demonstration of the Gonococcus.—Subsequently, observers repeatedly elicited the presence of gonococci in the exudate of joints. In early punctures we may detect them in 65 per cent. of the cases, so that today we recognize the appearance of joint affections in the course of gonorrheal invasion of the urethra, aside from the fugitive arthralgias and evanescent swellings, as distinctly genuine metastatic conditions.

The reason for not more frequently detecting the organisms in the joint exudate, is undoubtedly due to the fact that the gonococci thrive mainly in the synovial membranes and in the surface layers of the joint, and either appear in but limited numbers in the exudate or readily perish therein.

Mixed Infection.—In some cases the microscopic examination of the joint exudate reveals a concomitant infection, either the staphylococci or streptococci—a mixed infection; evidently the latter are merely secondary infections of pus cocci, the gonococcic involvement of the joint establishing a predisposition or vulnerability to the entrance of secondary organisms.

The course and termination of the malady in cases of mixed or secondary infection are *far more protracted and violent* than in the pure or primary infection.

Frequency.—The frequency of gonorrheal arthritis can only be ascertained with diffi-

culty or approximately so, as the patients suffering from genital gonorrhea and gonorrheal arthritis are distributed to the different clinics for treatment. It is unlikely that it is met with in more than one-half per cent. of all gonorrheal infections; with timely and careful treatment of a urethral gonorrhea arthritic symptoms appear very rarely. Females are more frequently affected than males owing to exacerbations coincident to menstruation and the puerperium. In males gonorrheal metastases are only encountered by the extension of the process to the posterior urethra.

Disposition.—The cause for the appearance of a gonorrheal arthritis does not so much lie in the particular virulence of the organism, as in a special disposition of the individual. In favor of this theory is the constant observation made in gonorrheics suffering from metastases, that in event of exacerbation or recrudescence of a urethral gonorrhea, they are repeatedly attacked by metastatic affections.

Perhaps this particular disposition may be explained from the anatomical circumstances of the urethral mucosa, which facilitates the entrance of the gonococci into the circulation, or perhaps due to a locus minoris of the joints, that permits isolated organisms to find a favorable and adequate retreat, or perhaps actuated by the general disposition of the human economy, occasioned by the reduced number of antibodies in the blood. Whatever the predisposing causes are, we can only speculate on them.

Not alone are metastases apt to usher in during the acute stage of the affections or in the course of a chronic gonorrhea in adults, but also in children suffering from vulvovaginitis and gonorrheal conjunctivitis.

Symptoms and Course (Localization).—Gonorrheal arthritis in the majority of cases only attacks one joint—it is mono-articular; but in event that more than one joint is involved, they are invariably affected when the primarily implicated joint has come to a standstill or is nearing the process of repair; only relatively seldom is more than one joint involved, when the morbid process migrates—similar to acute inflammatory rheumatism—rapidly from one joint to another.

More frequently the knee-joint is affected, then follow the joints of the ankle and wrist, elbow and phalanges in their order of frequency and predilection, while the shoulder, hip joint, and vertebræ are very rarely affected.

Course.—The course of the disease varies; we can recognize six forms of gonorrheal arthritis. At this juncture it may be remarked that these are no distinct lines of demarcation or specific types, but that these forms merge imperceptively into one another, so that one particular type may develop from a preceding one, so-called intermediary type.

The mildest form of this morbid process is manifested by more or less intense pain in a given joint, especially on motion, without evidence of any objective changes in the part affected; at the most only a slight swelling may appear.

Arthralgia.—This form of gonorrheal arthritis "Arthralgie blennorrhagique Tournier," not infrequently attacks various joints successively. Occasionally it may culminate into a more pronounced exudate in one of the joints, preferably in the knee-joint, that may become protracted and obstinate. This constitutes the second form, the so-called hydrops of the joints.

Hydrops.—This form is characterized by the appearance of a serous exudate in one of the joints, mostly in the knee-joint, accompanied by slight subjective disturbances; eventually the joint thus affected becomes enormously swollen, enlarged and fluctuation may be readily detected. In the majority of instances we find this type exceedingly rebellious and even in favorable cases when the exudate is rapidly absorbed, recurrences are apt to set in coincident to the slightest traumata. If this condition is long continued, it may develop into a distension and luxation of the joint ligaments and capsule and then into an abnormal and preternatural mobility of the joint with all its attendant evil consequences.

Arthritis Sero-Fibrinosa.—The reverse to hydrops is the sero-fibrinous arthritis, the most common form of gonorrheal rheumatism. It sets in abruptly with constitutional disturbances of more or less intensity, especially fever with violent pain in the affected joint, which is aggravated upon locomotion. Swelling soon supervenes, the capsule of the joint and the surrounding tissues are mainly implicated, while a serous effusion in the joint is entirely lacking or else is very trivial in amount, so that fluctuation can never be elicited. The course is very protracted and after subsidence of the symptoms there are repeated exacerbations, especially after a new flaring up of the urethral gonorrhea.

With this form of arthritis, according to observations and pathologic examinations, there occurs a rapid destruction of the synovial membranes and partially also of the coverings of the cartilage; granulations are formed that either more or less destroy the capsule of the joint, while the cavity of the joint becomes surcharged with various

quantities of mucopurulent or serous exudate admixed with more or less flocculous material. It is, therefore, evident that restitution only takes place at the expense of a cicatricial contraction of the capsule of the joint, deformities result, with greater or lesser functional disturbances as a sequel.

Arthritis Purulenta.—Merging into the next form we encounter the purulent variety, wherein the objective and subjective manifestations are of a similar nature, only with considerable purulent effusion in the joint. This form may develop independent of the latter type and then again may attack the periarticular structures and culminate into a phlegmonous arthritis.

Phlegmonous Form.—This form may set in without an appreciable purulent exudate. Naturally this form of arthritis is the most intense and dangerous to the joint thus implicated; as a rule destruction of the capsule takes place together with the participation of the soft tissue surrounding it; not infrequently this form as well as the former may terminate fatally and is thus commonly due to secondary infections with staphylococci and streptococci.

Deforming Arthritis.—This last variety of gonorrheal arthritis is a chronic articular inflammation; similar to ordinary arthritis deformans it may slowly undergo changes in the form of thickening and actual deformities of the joint. Not rarely do we encounter atrophy of the adjacent musculature. The processes of such type of arthritis in the course of a gonorrhea cannot rationally be elucidated. Some observers have attributed it to the action of a toxin, but such observations are rather doubtful; it is not perhaps impossible that we have to deal with metastatic processes, for our knowledge derived

from bacteriologic and pathologic examinations sufficiently confirms this contention that the gonococci *per se* are apt to engender periosteal processes.

TREATMENT.

Vaccinotherapy.—Whether bacterin should be recommended or not in the treatment of gonorrheal arthritis is as yet sub-judice, altho in the torpid forms a number of favorable results have been obtained; theoretically considered, bacterin could only be successful in the subacute and chronic stages without the presence of high temperature. Greater reliance, however, can be placed in all stages upon Bier's hyperemia; it not only mitigates the pain to an extraordinary degree, but also leads to a subsidence of the objective manifestations.

Slight fixation of the joint in the case of severe pain and high temperature may be recommended and can readily be accomplished by means of cardboards; care must be taken not to maintain immobilization for too long a period, so as to prevent deformity and atrophy of the joint. It is also advisable after the disappearance of the symptoms and the fever, to begin with passive motion; but this must be carried out with the utmost caution on account of the possibility of relapse in the aggravated form of the disease.

In the subacute and terminal stage hot packs may be tried, supplemented by baths and application of iodine to the joint; later on massage and baths conjointly may be of benefit. With enormous serous effusion or pronounced purulent exudate, we may have to resort to surgical procedure in the form of puncturing the joint and subsequent irrigation. In cases of periarticular phlegmonous inflammation or suppuration, opening of the joint may become necessary. The

remaining ankylosis may be treated with massage and mechanical appliances to facilitate mobilization, and if this does not avail, surgical interference is ultimately the only measure that is left for us to follow.
507 Fine Arts Bldg.

THE LIPOIDS IN THE TREATMENT OF DRUG ADDICTION DISEASE.

BY

A. S. HOROVITZ, M. D.,
Cincinnati, Ohio.

The *New York Medical Journal* of October 16, 1920 contains a brief and more or less preliminary exposition of a new theory regarding the pathology and treatment of drug addiction. It deals with the biochemistry of drug addiction and the pathologic changes which take place in the tissues of drug addicts, discarding entirely present views on the subject. The conclusion that drug addiction is not a habit but a definite disease was not reached until careful clinical and laboratory investigations had been carried to a point which seemed to leave no room for doubting this view.

All of us are familiar with the valuable researches of Bishop, to whose painstaking work we owe our concept of drug addiction as a pathologic entity. Bishop has investigated drug addiction from the viewpoint of the internist and the clinician; the writer has approached the subject from a biochemic and pathologic standpoint, reaching the conclusions put forth in the paper mentioned above.

During his investigation of the action of certain alkaloids upon different tissues, and upon their constituents, the writer was forced to the conclusion that various alkaloids have a different influence upon various

tissues and their components. All have a slow dissolving action upon the lipoidal contents of the various tissues. From previous investigations we know that the vitamine elements or constituents of the tissues are charged with the duty of protecting their environment against the destructive action of toxins of low nitrogen content. The lipoids of certain tissues have a similar activity toward toxins of similar nitrogen content, such as the toxins released during the use of narcotics. During the period of taking opiates (alkaloids) the lipoidal content of the tissues of the system is gradually reduced, causing pathologic changes with the manifestation of phenomena erroneously designated as a drug habit instead of addiction disease.

Believing that addiction is caused by the marked decrease or deprivation of lipoids from the system, and that the release of toxins of different character when set free in the system produces the manifestations of suffering, the writer strove to discover some method of replacing the lost substances, in this way bringing the lipid starved system to a normal state. During his investigation of the chemistry and biochemistry of lipoids generally, he observed the chemical affinity of plant lipoids for animal lipoids, and their possible replacement of each other, as well as a remarkable neutralizing influence of plant lipoids upon alkaloids from the same sources. This observation led to various animal experiments in an effort to discover the action of alkaloids and plant lipoids *in vivo*, and resulted in the evolution of a combination of plant lipoids capable of relieving drug addiction disease in the human being.

The experiments of Dr. Adriano Valenti of the Royal University of Pavia were carried out and further experimentation added.

In doing so certain dogs received daily increasing doses of morphine until 22 grains were tolerated. All dogs were suddenly taken off the drug; some were left without any medication whatever, while others were given lipoidal substance. The result of this experiment was that the dogs without any medication precipitated into a state of intense suffering very similar to that manifested in the human being during the period of withdrawal. The dogs subjected to lipid treatment, however, did not develop these intense manifestations, and the restlessness was promptly relieved and disappeared altogether after a short time.

Blood pressure and pulse rates were taken of the dogs given no treatment whatever and those who received the lipid substance. The difference was quite marked. Violent fluctuation of the rhythm and rate of pulse and of the blood pressure was noticeable in the untreated dogs, whereas in those who received the lipid substance very little irregularity was observed, and that which was present disappeared after the third or fourth day of treatment. This experiment throws a new light upon the subject of drug addiction as a disease, caused by certain released toxins with well defined pathologic changes.

It is needless to emphasize that during clinical investigation much attention was paid to the functions of the most important glands and the emunctories. In doing so, one could not fail to observe the changes in the action of the endocrine glands. It was easy also to note the indirect paralyzing action of drugs upon the whole digestive tract. This action makes it plausible that we have to deal with more than one released chemical complex in drug addiction disease. The various skin manifestations so commonly present in cases suffering from drug addiction disease render it even more clear

that certain substances of protein origin (toxins) interfere with the action of the skin causing various phenomena. We have no space to describe all these very important observations as the writer believes that every careful clinician is in position to make these same observations in his own practice.

After long and careful study the newly evolved therapeutic principle was placed in the hands of private practitioners and of physicians in charge of the county and Federal jails for the purpose of investigating its efficacy as a remedy for the treatment of drug addiction disease in cases under their constant care and observation. The object of treating cases in private practice and in jail was to be in position to draw valuable conclusions regarding drug addiction as a disease in cases of good moral standing, such as we have to deal with in our private practice, and in cases of low moral standing, possibly degenerates with which we come in contact in the various jails.

Both types have seemed to make a remarkable response and make a gratifying recovery from drug addiction, as a result of the use of the lipoidal treatment. Patients in private practice who come to the physician for the sake of being cured will soon become normal and develop a contempt for the opiates which is most pronounced. Cases treated in the jails are of two classes. A large percentage of the patients obtaining their freedom from drug addiction and from the iron bars will look for honorable occupation and will stick to it, whereas the other part of these cases undoubtedly come under the theory of Lombroso. In these latter cases we have to deal with some other pathologic changes in the brain and central nervous system, not only with conditions

caused by the use of narcotics. These patients, after obtaining their release from the jail, plunge immediately into previous association of the underworld, and sooner or later return again to the use of narcotics, in spite of the fact that the system does not require or need the drug.

THE STATE INCOME TAX AS IT RELATES TO PHYSICIANS.

BY

JAMES A. WENDELL,

State Comptroller, Albany, N. Y.

Prescriptions have become popularized since the incidence of the Eighteenth Amendment. The dose as prescribed for the physician by the State Income Tax Law is not particularly hard to either compound or take.

Twelve months' experience in the administering of the State Income Tax Law developed the necessity for some changes in the law. It is thought well to call to the attention of the physician so much of the amendments to this law as may be of concern to him in the computing of his tax liability. Experience developed that March 15 was a confusing date for the termination of the period provided for filing of returns, for the reason that a similar limit was set by the federal authorities in respect of federal income tax returns. The law, therefore, was amended in this respect to the effect that returns for 1920 may be filed at any time subsequent to January 1, 1921 and prior to April 15, 1921.

It is of interest to know that resident physicians may now deduct from their gross income, all interest on indebtedness paid or accrued during the reporting year. They

may also deduct contributions or gifts made to religious, charitable or educational corporations or associations, regardless of whether they are incorporated or organized under the laws of this State. It is now deemed sufficient if the recipient of such contributions be operated exclusively for one of the purposes above mentioned. It should be remembered, however, that the amount of such deduction is limited to not greater than 15% of the physician's net income.

It might be noted in passing that the law with reference to personal exemptions has not been changed in so far as the resident physician is concerned, except that in case separate returns are made by the husband and wife, the personal exemption of \$2,000 must be equally divided between them. The non-resident physician is, no doubt, well aware of the fact that he is now entitled to the identical personal exemptions allowed to a resident physician.

The scope and nature of the medical profession is such as to ordinarily preclude the necessity for deducting and withholding from compensation paid a non-resident by way of personal services rendered. It may well be, however, that a physician disbursed during the twelve month reporting period, a sum of \$1,000 or more to either one or more employees or an associate. If such is the case, it is well to be informed that the law requires an informational return to be filed with this Bureau in respect of such payments. The proper form for this return will be promptly forwarded upon request to either the Albany or a district office of the Bureau.

The resident physician may, generally speaking, deduct from his gross income the ordinary expenses incidental to the carry-

ing on of his profession. To be specific, he may deduct an allowance for the depreciation of an automobile which is used solely in his professional work. The rate of depreciation shall be determined by some consistent plan whereby a definite sum, deducted each year, will at the time when the car becomes useless replace the worn out automobile with either a similar car or one of equal value.

In case the physician is practicing electrotherapy, a deduction may be taken each year for depreciation on an X-ray machine, for example. A surgeon may take a deduction for obsolescence in the matter of certain instruments becoming useless due to replacement by a more practical instrument. It is not practical to follow the idea of depreciation and obsolescence into intricate detail. The doctor will be able to determine those things as to which a deduction may be taken for either of the above mentioned reasons.

There are many cases where a physician, practicing in a rural community, combines a residence and office. It is of interest to know that a deduction may be taken in respect of that proportion of taxes paid on this real estate which the space occupied for offices bears to the entire residence. In case the house is rented by the physician, he may deduct a proportion of rent paid computed in the same manner as here outlined with reference to repairs.

There seems to be a general inclination to include in income reported payments of interest received from investments in Liberty Bonds. The law specifically provides that such interest payments constitute non-taxable income.

It is well known that a doctor contributes more of his time and services without com-

pensation than any other professional man. He should be advised that any accounts on his books, which he determines during the calendar year to be hopeless of collection, may be charged off as bad debts and deducted from his gross income earned during such calendar year.

The non-resident physician, practicing in this State, will be pleased to know that he may deduct in general the same deductions that are accorded a resident, so long as such deductions arise out of a source within this State, the income from which is taxable under the law. An example of a deduction which a non-resident may not take is the case of a mortgage on real estate situated outside this State. Altho this is an indebtedness, the interest which the doctor pays on such mortgage cannot be deducted for the reason that if the mortgage ran to the physician, he would not be required to include in his return of income the sums which he received by way of interest payments:

A permanent list of all doctors who paid an income tax to the State for the year 1919, has been made and filed at the Albany office of the Bureau. There will be mailed to each doctor on this list a blank form in duplicate for the filing of his return of income for the year 1920. It is, therefore, only the physician who is filing a return for the first time that needs to bear in mind the necessity for obtaining a blank form for his return.

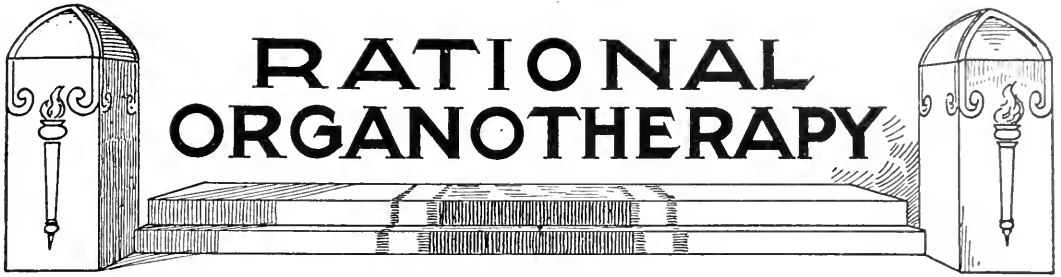
There was considerable confusion during the initial year of the administration of the State law by reason of physicians obtaining short form 200 when, as a matter of fact, long form 201 is the form required to be filed.

Communications received at the home and district offices reflect some anxiety in

the minds of taxpayers as to the proper procedure to obtain a refund of an amount of tax overpaid. It is the practice of the audit division of the Bureau to promptly refund such overpayments without action on the part of the taxpayer. If it is desired to obtain prompt action on the question of an overpayment of tax, the proper procedure is to request form 110 from one of the district offices of the Bureau and to file this form with the Albany office at the earliest opportunity. This form for claim for refund is attached to the return of the taxpayer and the question of overpayment of tax due is by this method immediately brought to the attention of the auditor as soon as the return is reached for audit in its due alphabetical sequence.

The Director of the Bureau has called attention to the fact that little, if any, trouble has been experienced with an attempt on the part of physicians either to avoid the payment of tax due pursuant to the Income Tax Law or to evade taxation entirely by concealment of income. It has been noticeably apparent that as a class, the medical profession have willingly demonstrated their desire to cooperate with this branch of State government. The cases where an additional assessment of tax has been made against a doctor can usually be traced to the fact that the business of his profession has so occupied his mind as to exclude his duty and liability under the law.

The attention of medical men is invited to the fact that all returns forwarded to the Bureau, are treated in the nature of confidential communications. A heavy penalty, with the possibility of imprisonment, faces any employee of the Bureau who divulges information contained in the return of any taxpayer.



The Use of Pituitary Extract in Connection With the Induction of Labor.—

Watson (*New York Medical Journal*, October 9, 1920) said that Blair Bell in 1909 was the first to employ in practice the results of experimental investigations carried out on the extract of the pituitary gland up to that time. Since then a great mass of literature had accumulated on the subject. It was universally recognized that it was a most valuable agent for accelerating the second stage of labor when delay was due to feeble uterine contraction. In most of the articles which had appeared the reader was warned against using it for the induction of labor or before the cervix was fully dilated. He had used it extensively for the induction of labor and during all stages of labor, and had never had any bad results. In 1913 he recorded three cases in which he had successfully induced labor by its means. One of these was at the eighth month, one at full term, and one at three weeks post term. He stated that the method was worth an extended trial and he thought that his further results bore this out. The method used was to begin with a dose of one-half to one c. c. administered intramuscularly with a long needle. In most cases uterine contractions commenced in about ten minutes and increased in severity during the next twenty minutes. At the end of this time the second injection of one-half c. c. was given. If, after a time, the contractions tended to weaken, or to come at longer intervals, the dose was repeated. As many as six or eight doses might thus be given at intervals of about half an hour. The important point was to administer a further dose before the effects of the previous one had entirely passed off. The effects from a single dose appeared to last only for about half an hour and there was no cumulative effect. Sufficient doses

must, therefore, be given to keep up uterine contractions sufficient to produce a certain amount of opening up of the cervix. When the cervix had begun to open and the membranes to bulge into it the uterine contractions would continue without the further administration of the drug. The failures which he had in the beginning were the result of not pushing the dose far enough. He had found it perfectly safe to give eight or ten one-half c. c. doses at half-hour intervals.

In 19 multiparæ the average duration of labor was 19 hours as contrasted with 18 hours as an average in 18 multiparæ. With the bag method the average time elapsing before labor began was 13 hours and the average duration of labor was 10 hours. This number, of course, was very small and not sufficient to draw conclusions from. With quinine alone, in 25 cases the average time elapsing from the last dose to the definite onset of labor was seven hours, while the average duration of labor was nine hours, seven for multiparæ and 11 for primiparæ. With pituitrin alone in a total of 18 cases the average time elapsing between the first dose and the definite onset of labor was two hours. The average duration of labor was ten hours, 16 hours for five primiparæ and nine hours for 13 multiparæ. With quinine and pituitary extract, in a total of 62 cases, 53 were successful and nine were totally unsuccessful. Six of the successful cases required repetition of the routine before labor began. In the 53 successful cases the average time elapsing between the first dose of pituitrin and the onset of labor was two hours and the average duration of labor was ten hours; 14 hours for 23 primiparæ and seven hours for 30 multiparæ. In the quinine and pituitrin cases labor was spontaneous, except in four cases in which forceps were used when the

head was on the perineum. In the total of 53 cases there were four stillborn babies.

Dr. Watson said that recently two of his colleagues, members of his staff, J. G. Gallie and W. A. Scott, had recorded a series of 65 cases in which they had used pituitary extract alone for the induction of labor. Out of this total number 55 were entirely successful. The average number of doses given was three and the average duration of labor was seven hours. There was one fetal death 28 hours after delivery from atelectasis. The delivery was normal in 45, by forceps in nine and by version in one.

Taking these results with those which he had recorded, he thought we must recognize that the method had a definite place in obstetrical practice and should be considered before other methods were adopted. It had very special advantages in cases of slight disparity between the head and pelvis, as it did not in any way prejudice the Cesarean operation should it prove to be necessary—an argument which could not apply to the bougie or bag method.

Effect of Hypophysis Extracts on the Secretion of Urine.—

Brunn (*Zentralblatt für innere Medizin*, Sept. 25, 1920) states that while, on the basis of earlier animal experiments, it was reported that extracts of the hypophysis exert a diuretic effect on the secretion of urine, a large number of writers today agree that the subcutaneous injection of any of the commercial hypophysis preparations results in a checking of diuresis. Saxl and Brunn found that in from three to four hours after an injection of a hypophysis preparation a very small quantity of highly concentrated urine is secreted. In other trials an artificial polyuria was produced by allowing the subject to drink a liter of water; the half-hourly portions of urine were collected and the volume and specific gravity were determined. In from three to four hours the effect of the extract was worn off and copious diuresis set in, which corresponded to the normal results in experiments with water, only postponed, as it were, for four hours. The excretion of sodium chlorid was not affected, on the whole, by the extract. The checking of diuresis was more

marked the greater the original water diuresis and the less the sodium chlorid diuresis; in other words, the more dilute the urine and the lower the specific gravity. As throwing light on the possible mechanism of the effect of hypophysis extracts on diuresis, Brunn calls especial attention to the fact that during the checking of diuresis marked hydremia is noted. This seems to point to a blocking in the kidney and opposes the assumption that the tissues under the effect of the extract hold back the water, to a great extent, and cannot give it off into the blood stream.

Hyperthyroidism.—Fussell (*New York Medical Journal*, August 14, 1920) discusses the importance of diagnosing early cases of hyperthyroidism: the symptoms of mild cases may be mistaken for those of neurasthenia, functional or organic heart disease, or tuberculosis. Hyperthyroidism can be proved by the following tests:

1. Increased metabolic rate (a test possible only in special institutions).
2. Administration of increasing doses of thyroid extract intensifies the symptoms.
3. Hypodermic injections of adrenalin, *e. g.*, 0.5 c. c. of 1:1000 solution, exaggerates the symptoms, with evidence of vasomotor disturbances, such as pallor of lips and fingers, followed by flushings and sweatings and possibly by rise of temperature and diuresis.
4. Decrease of sugar tolerance.

Lian calls attention to the presence of hyperesthesia over the thyroid in cases of hyperthyroidism. If the point of a pin be drawn over the skin of the neck, a sharp burning pain is experienced in the thyroid region in this condition, while Marañón gives as a test of hyperthyroidism that of rubbing the skin of the neck lightly with the fingers which produces a redness in the region of the thyroid much more pronounced than that elicited by rubbing the skin elsewhere.

Ascoli and Faginoli found that in hyperthyroid patients an intradermic dose of one minim of 1:4000 solution adrenalin produced a local reaction characterized by a central large area of blanching, surrounded by a peripheral zone of reddening. A similar injection of 0.05 c. c. of 1:1000 solution

of adrenalin provokes a swelling which almost immediately assumes a dark blue color, as if ink had been injected. By adding a minute dose of thyroid extract to the adrenalin, the reaction to the latter is distinctly enhanced and more protracted.

Results with Organotherapy.—Strong, in his valuable article in the *Practical Medicine and Surgery*, December, 1920, gives his conclusions as follows:

1. Organotherapy is a rational treatment.

2. That a thoro physical examination is necessary before using them.

3. That their indiscriminate use be avoided, especially in maximum doses, because of untoward results.

4. That patients so treated should be frequently seen.

5. That we should understand their specific actions as well if not better than so-called galenic remedies.

6. Whereas all the glands have a hormonal action as a whole, the removal of one will break the continuity of their action, therefore, we should be as sure as possible before removing any one of them that its function is so impaired that if it remained it would be a menace to the health (this, by the way, is the real rub) and this is the problem of the surgeon. It is no longer a question with a competent surgeon as to how to operate, but what to do and especially what not to do.

Internal Secretion of Testis.—The experimental work reported on by Massaglia (*Endocrinology*, October-December, 1920) is interpreted by him as showing that the testis has an internal secretion, which gives to the male the masculine sexual characters and sexual instinct and keeps the function of the hypophysis normal. His researches indicate that the Leydig's cells have the endocrine function. This conception is supported by the following facts: 1. The Leydig's cells have the characters of secretory cells in that they elaborate fatty granules and mitochondria. 2. The animal remains normal even when we have marked atrophy of the seminal epithelium.

3. It is only when the atrophic testis is removed with the Leydig's cells then in good condition, that changes are noted after castration.
4. No facts exist which speak for the conception that the spermatogenetic cells exercise the endocrine function: they complete a cytologic cycle to become spermatozoa, which have merely the biologic function of reproductive cells. The new information on the internal secretion of the testis that shows the effects of its abolition indicates that there exists thru the internal testicular secretion a functional correlation between the testis and hypophysis cerebri. It lends support to the view that the pituitary body has the function of ruling the skeletal growth, and perhaps throws some light on the obscure etiology of gigantism and acromegaly. In the acromegalic there is found marked hypertrophy of the hypophysis with eosinophilia of its cells and deficient development of sexual organs. But in the acromegalic the more important fact is that it is a lesion (hypertrophy, adenoma) of the pituitary body, whereas in the castrated it is the loss of the internal secretion of the testis, which secondarily produces hypertrophy of the hypophysis.

Corpus Luteum in Pain in Breasts.—

In the three cases cited by Hartwell (*Col. Medicine*, May, 1920), pain in the breasts was more or less constant, severe and aggravated by menstruation. The use of corpus luteum for about one week gave complete and permanent relief from pain in each case.

The Ductless Glands.—Gutman (*The Medical Woman's Journal*, December, 1920) states that endocrinologic diagnosis is not a simple procedure, but it helps one to decipher the whys and wherefores of life and offers a precise and more satisfactory explanation of conditions not otherwise satisfactorily explainable. It renders possible individualization in diagnosis and therapy, whereas in pathologic diagnosis alone, individualization is impossible. This accounts for the fact that therapy based solely upon pathologic findings is seldom productive of any very definite or lasting curative results. For these reasons and from the

standpoint of the sick individual, correct endocrinologic diagnosis must be the chief aim of the medical diagnostician of the future.

a physician still thinks of solely in terms of a trouble maker for digestion.



By-ways and High-ways

Dietary Justice to the Peanut.—The statistics of the peanut crop in the United States, as an editorial writer in the *Journal of the American Medical Association* (August 28, 1920) well says, attest the growing popularity of the product. For many years peanuts were eaten essentially as "extra" foods, like candy and other sweetmeats. Latterly, they have begun to claim a more substantial place in the diet. Under the appealing designation of peanut "butter," the ground peanuts are finding widespread use as a palatable, wholesome food. Peanut oil is now expressed in large quantities from shelled peanuts, and has received commendation. From the resulting press cake, peanut flour has been prepared by grinding. Peanuts are unusual in containing a considerable proportion of protein along with both fat and carbohydrate. Water-soluble vitamin is also not lacking. Experts in the Office of Home Economics at the U. S. Department of Agriculture have shown that the nutrients of peanuts are easily digested by man. Johns and Finks of the same department have given an added worth to the food by demonstrating convincingly the high physiologic value of the peanut protein. Various investigators have demonstrated that bread made from wheat flour of current composition is inadequate as the only source of protein in the diet. The government workers have found, however, that bread made with a mixture of 25 parts of peanut flour and 75 parts of wheat flour furnished adequate proteins for normal growth of experimental animals. The proteins of the peanut bread were utilized for gain almost twice as well as those contained in wheat bread. This does not mean that the familiar "staff of life" should be abandoned or regularly diluted with peanut flour; it does, however, put a stamp of real nutritive merit on a food product that many

A British View on Prohibition.—American physicians will be interested in the following comments, which appeared recently in the *London Observer*, on the operation of prohibition in the United States, written by a high British medical authority who attended the recent International Congress at Washington and reflecting the attitude in medical circles in London toward the abolition of liquor.

Nothing like adequate attention has been paid in this country to the work of the Fifteenth International Congress against Alcoholism, recently held in Washington. The Congress had never before been held in America, and special efforts were made to ensure its practical success. This is not the place in which to try to describe the forethought and the lavish skill with which the delegates from some forty different countries of the world were treated by the Government of the United States, whose guests we were. But certain medical findings of what must necessarily be a medical congress, by its definition, should certainly be recorded here. Our Government recognized the importance of the *data*, and comparative studies of the problem of alcoholism in all parts of the world, though our Press did not; for Sir Auckland Geddes attended the opening session, to the very great satisfaction of everyone present, and told us that he had been instructed by his Government to have the proceedings attended, and to make reports thereon to three of our Departments, the Home Office, the Board of Trade, and the Ministry of Health.

SOME HOSPITAL FIGURES.

When the Prohibition Amendment to the Constitution of the United States came into force last January, it was here described as the "greatest health measure in history." The evidence which accumulates in support of that assertion is far too copious for this place, but I must give some indications of it by way of comment upon the present plight of our long-illustrious hospital system. The following are examples merely of the *data* submitted at Washington:—

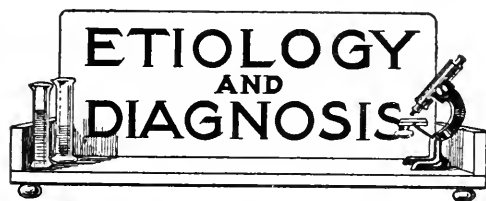
In New York, according to the official statements of Dr. Royal S. Copeland, Health Commissioner for the City, there has been, since the enactment of prohibition, an unprecedented decrease in deaths from pulmonary tuberculosis; and the Secretary of the United Hospital Fund reports as follows: "Alcoholism has clogged our hospital systems with unnecessary cases of sickness and accidents." "Physicians, nurses, equipment, time, space, and food have been pre-empted by alcoholics, while other

patients have been denied admission." "Recent figures gathered by the United Hospital Fund show that in New York City alone, thanks to prohibition, 7,000 beds have been released." It is also recorded that "700 vacancies for tuberculosis patients are reported in the Departmental Hospital, and 300 vacancies in the private hospitals of New York since prohibition became effective." From Chicago, the second largest city in America, came similar reports, as thus, on the authority of Dr. John Robertson: "Facts speak for themselves; we had 235 cases of alcoholic pneumonia in the County Hospital in September, 1917, 230 in September, 1918, and 71 in September, 1919." The third largest city in America is Philadelphia, and thence came such facts as this: "The Philadelphia General Hospital, which cared for 3,481 alcoholic patients in 1917, and 2,326 in 1918, has closed its alcoholic wards."

THE EXPECTANT MOTHER.

Similar results were officially reported from all parts of the Republic, north, south, east, and west. Much discussion has necessarily arisen as to the best uses to which the immense hospital resources freed by prohibition should be put. Apparently the consensus of opinion is that the expectant mother should have first place; and early mental cases, threatening to become insane, the second. These are both British ideas. The first hospital bed in the world for an expectant mother was opened in 1901 in the Edinburgh Royal Maternity Hospital, on the initiative of Dr. J. W. Ballantyne, when the present writer was resident medical officer there; and the name of Dr. Maudsley is associated with the idea of early hospital care for threatened insanity. Thanks to prohibition, America is now able to realize these great ideas of British Medicine on a scale unimagined elsewhere.

One of these days, when we can bear the burden no longer, all resources of charity, taxes, and the rates being inadequate to cope with the results, direct and indirect, of alcoholism, we also shall have to turn off the poisoned tap.



Etiology and Diagnosis of Nephritis.—McElroy (*Medical Record*, January 8, 1921) gave the diagnostic features as follows: (1) Nephritis occurred most frequently from 40 to 50 years of age and in men. (2) The good general condition of benign hypertension rapidly declined and soon presented the characteristic cachectic condition of chronic nephritis. (3) The disease ran its course as a cardiovascular renal disease. The cardiovascular symptoms, as compared with benign hypertension, were characterized

by a tendency to greater severity. (4) The blood pressure from the beginning was high and constantly maintained, showing the highest values. (5) The cardiac hypertrophy was marked, came on early, and here was found the largest hearts. (6) Edema, when present, was of cardiac origin. (7) The blood showed marked secondary anemia in contrast to benign hypertension. (8) There was mycturia, with day and night polyuria, and the urine showed a low specific gravity, albuminuria, and cylindruria of moderate grades. (9) Papillitis and neuroretinitis were the rule and afforded a certain indication that the case did not belong to the type of benign hypertension, altho the kidney functional test might show little or no impairment. (10) Impairment of kidney function was the chief characteristic of this type. This varied from the slight to the most severe, similar to the last stage of chronic diffuse glomerulonephritis with kidney insufficiency. (11) If death did not occur earlier from the cardiovascular component of the disease or a pulmonary complication, the end results were from true uremia as in the end stage of chronic diffuse glomerulonephritis. Eclamptic equivalents were prominent as in benign hypertension, the psychical symptoms tending to be more severe. Eclamptic uremia might rarely occur.

The Diagnosis and Treatment of Neurosyphilis.—Solomon (*Boston Medical and Surgical Journal*, December 30, 1920) concluding his discussion of this subject, points out that: 1. The central nervous system is involved by syphilis very frequently in the primary and secondary stages; that this involvement is ordinarily benign and disappears symptomatically with or without treatment. 2. In a small number of cases, acute meningitis, meningocephalitis, vascularitis and gummas occur in the secondary period of the disease. 3. About 10 per cent. of all cases of syphilis develop late neurosyphilis, tabes, paresis, meningitis, meningocephalitis, gummas, vascularitis. 4. Neurosyphilis is always serious, affecting the mind, utility and life of the patient. 5. Diagnosis is often possible only by the aid of the spinal examination. 6. Therapeutic results are better, the earlier the diagnosis of syphilis is made, and the sooner treatment is instituted. 7. The spinal fluid is often positive long before definite symptoms are present; hence the need of frequent lumbar punctures. 8. More intensive treatment is usually required to treat neurosyphilis than in the treatment of non-nervous-system syphilis. 9. Cases of meningitis, acute meningocephalitis, and mild vascular syphilis usually react favorably to intensive intravenous injection. 10. For these conditions intraspinal injections will at times accomplish more than intravenous therapy. 11. Tabes is more difficult to improve than the above mentioned forms. Many cases, especially the early ones, show improvement under intravenous therapy adequately administered but with intraspinal therapy, will frequently do much better. It is often the method *par excellence*. 12. Many cases diagnosed as paresis make fair recoveries under

intravenous therapy. 13. Intraspinal injections and drainage of the cerebrospinal fluid may aid in the intravenous treatment of general paresis. 14. Intraventricular injections may at times give more favorable results than any other in the treatment of paresis.

Simple Diagnosis of Heart Lesions.—Weather-son (*Illinois Medical Journal*, September, 1920) calls attention to the fact that many murmurs are functional.

We must find corroborating evidence before we can say positively that an organic lesion exists.

Regurgitation is not a lesion. It is an act which ceases at death. We should know the condition present in a case which allows it.

Autopsy statistics show that every infection of a valve runs "true to form" and produces its characteristic lesion.

Hence the diagnosis of the pathological condition present is simplified by merely determining the etiology that produced it.

Syphilis always produces dilatation, and never involves any but the aortic valve.

The streptococcus (rheumatism, arthritis, scarlet fever, chorea, tonsillitis, etc.) always produces stenosis.

Pulmonary valve disease is always stenotic and is congenital in origin.

A dilated roughened aortic arch of the hypertensive type is usually wrongly diagnosed as mitral regurgitation because the systolic murmur is projected backward to the mitral area.

No diagnosis of a valve lesion is complete unless we know the condition or infection that caused it.

Cause of Pellagra.—Bory (*Le Progrès Médical*, October 23, 1920) gives a short résumé of his recent studies in this field, with special reference to the part played presumably by vitamin deficiency. He quotes from a recent article by Goldberger and Wheeler in which a certain restricted diet appeared to be responsible for the appearance of the disease in prisoners. This diet was restricted to cereals, presumably decorticated. Two months were required for the development of the disease picture, which was classical. Other inmates of the prison, staff members, etc., who were on a balanced diet, presented none of the manifestations. In an insane asylum with cases of pellagra the staff did not contract the disease and an increase in the ration of meat and milk—which had been extremely scanty—appeared to control the disease in the inmates. There were further tests made in orphan asylums and in small villages where pellagra had appeared, with the same results. There is no doubt, then, that pellagra is a deficiency disease, but we do not know whether a vitamin or an amino acid or a mineral ingredient is at fault. The general result is, moreover, offset by the appearance of pellagra in well-to-do and well-fed individuals. But on close inspection some of these were found to have a repugnance to certain dietetic

articles—eggs, milk, meat—while others restricted their diet because they regarded certain articles as of difficult digestion. These people showed improvement under the theoretic diet. The author is not satisfied with the dietetic explanation alone, and believes that subjects on an exclusive cereal diet fall victims to some obscure infection. The old spoiled maize theory still holds good in support of this view (recently he could add that experiences in Roumania were due frankly to this cause). He cites an endemic case in France of obscure etiology in which Italian laborers may have brought the germ from some pellagrous locality. He invokes a mosquito theory of transmission. The diet was favorable for infection, having been largely cereal and not properly balanced.



Treatment of Hemorrhage.—Recognizing the fact that the utility of adrenalin in therapeutics hinges upon its remarkable contractile effect upon the small blood vessels, the physician readily accepts it as the most available styptic we have (*The Canada Lancet*, December, 1920) its action is manifested whether it be applied directly to the exposed vessel, administered subcutaneously in the bleeding area, or, as in intestinal hemorrhage, given intravenously. When applied locally the response is so vigorous that the tissue is actually blanched; and in combination with local anesthetics it prevents excessive bleeding during and after operations on mucous membranes and other structures.

In the advertising section of this issue the reader will find the fourth of a series of little essays on "Adrenalin in Medicine," in which the topic discussed is "The Treatment of Hemorrhage." While most practitioners are more or less familiar with the therapeutics of adrenalin, a perusal of this brief article will serve to refresh the memory of any one who has momentarily lost sight of this remarkable and dependable agent in minor surgery. A notable point that may have been overlooked is that adrenalin not only controls bleeding by vasoconstriction, but it also shortens the coagulation period, whereby it occupies a distinctly unique position among hemostatics.

Treatment of Diphtheria Carriers.—Fraser and Duncan in the *Lancet*, November 13, 1920, differentiate between a "positive throat" and a "true diphtheria carrier." The latter carries bacteria which retain their virulence despite the most energetic disinfection. Stock diphtheria vaccine cures the positive throat, but up to the present time no thoro cure has been

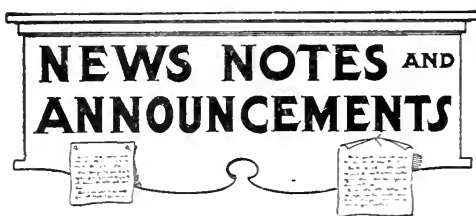
offered for the true carrier. The authors base their work on the theory that in a carrier there is equilibrium between the power of immunity of the individual and the toxin. A detoxicated Klebs-Loeffler vaccine, prepared after the manner of D. Thompson, was used in three cases reported. All lethal bacteria disappeared after inoculations of constantly increasing concentrations. It is pointed out that the treatment may be used on convalescents in case of delayed resolution, and the method apparently offers immunity to those exposed to infection.

Treatment of Goitre with Radium.—Clagett (*Illinois Medical Journal*, October, 1920) believes that radium should be given a trial in exophthalmic goitre, because there is no mortality, no scar, no pain, and only three or four days' hospitalization. Its advantages over the X-ray are that it produces no discoloration of the neck, there is less time consumed in the treatment, and it is simpler to apply. The selective action of radium destroys the harmful cells, while not disturbing the healthy cells. Surgery has not been necessary in any one of forty-seven cases extending back over three years.

Treatment of Diabetes Mellitus.—One hundred and fifty-three cases of diabetes mellitus treated in the metabolism clinic of the Royal Victoria Hospital form the basis of Mason's paper in the *Canadian Medical Association Journal*, December, 1920. A method of treatment has been used which has given more uniformly satisfactory results than any previous one. It is based largely on one used in the hospital of the Rockefeller Institute for Medical Research. The plan is to give a so-called observation diet which is simply a diet on which an idea of the severity of the case can be obtained. It contains enough protein to maintain nitrogen equilibrium in an adult at rest with an intake of 25 calories per kilogram body weight. It is usually continued for three days' duration. The next step is to free the patient from glycosuria, lowering the blood sugar to normal. This is accomplished by cutting the observation diet in half, then one-quarter, and then fasting. During this latter period patients receive three times boiled vegetables, bran cakes, made from washed bran and agar-agar, and chicken broth diluted with the fat skimmed off. Very few patients tend to develop any acidosis by this method of approaching starvation, and it is less time-consuming than Joslin's method. The carbohydrate tolerance is determined on green vegetables. It is continued until there is glycosuria two days in succession with the same intake of carbohydrate. After the carbohydrate tolerance has been determined the next thing to do is to free the patient from glycosuria, which is invariably easily accomplished by one day's fast. Then the patient is built up to the trial maintenance diet, thru two or three graded stages. This diet is often sufficient to maintain nitrogen equilibrium in many adults. If the

blood sugar permits, supply 30 calories per kilogram body weight. This is the stage at which most patients are discharged from the hospital, when they are in nitrogen equilibrium, free from glycosuria, and with their blood sugar as near normal as possible. On discharge each patient is supplied with a unit equipment consisting of a gram scale, a 100 c. c. measuring graduate, the urinalysis equipment and solutions. They are also kept supplied with a printed weekly report sheet on which they note their daily volume output of urine, its glucose content, the ferric chlorid reaction, and the grams of protein, fat and carbohydrate eaten. This report sheet has been found to be most valuable by Mason and others who have used it in the intelligent following of the case.

Treatment of Sweating Feet.—A twenty-five per cent. solution of aluminium chloride in water (*Critic and Guide*, January, 1921) dabbed gently on the affected part every second or third day and allowed to dry on, rapidly reduces the excessive sweating. Three applications usually suffice. One application a week may be made to prevent recurrence. Excessive use is to be avoided, as it will cause sharp itching or stinging locally. Clothing should not touch the area until the solution has thoroly dried. If itching should occur, an ointment of cold cream containing twelve per cent. of boric acid or a calamine lotion with or without 0.5% of phenol, may be used. The treatment is effectual, not only in simple hyperhidrosis of the axillæ or feet, but also in persistent vesicular eruptions of the feet accompanied by excessive sweating. Any active inflammatory eruption present should be reduced before the aluminium chloride solution is applied. In those whose skin is very tender a 10 per cent. instead of a 25 per cent. solution may be used.



Manidol Songkla, Crown Prince of Siam, is taking a special course in public health at Harvard University and the Massachusetts Institute of Technology.

International Public Health Journal.—The first number of the new *International Health Journal* is now out, issued by the General Medical Department of the League of Red Cross Societies at Geneva, Switzerland. This journal will be devoted almost entirely to public health work and preventive medicine and will be

published every two months in four languages, French, English, Italian and Spanish. The editor is Dr. T. R. Brown, of Baltimore, and associate editor is Dr. W. F. Francis, of Montreal.

More Coffee Drunk Since Prohibition.—The Secretary of the National Coffee Roasters' Association is authority for the statement that sixteen billions more cups of coffee have been consumed in 1920 than during the entire year of 1919. The increased consumption is attributed to prohibition.

Hiccough Epidemic Appears in New York.—According to the Department of Health, the number of cases of hiccoughs reported thruout the city shows that the complaint has reached the stage of a general epidemic. More than 150 of the inmates of the Tombs Prison have been affected by hiccoughs.

Certified Water.—Within the last twelve months the danger to railway travelers of infection with typhoid fever, dysentery and other water-borne diseases has been reduced to a minimum thruout the greater part of the country by the cooperation of the U. S. Public Health Service with the different state boards of health in the testing of the water used on railway trains for drinking and cooking. Within the next few months similar protection will be afforded to passengers on river and lake steamers and to ocean steamships sailing from American ports. This will tend to end the severe outbreaks of typhoid fever that have from time to time been traced to ships (especially to excursion boats), as well as to the probably more numerous but far less easily traced illnesses of railway travelers from similar pollution.

Consumption of Licorice.—It is estimated that before the World War the consumption of licorice in the United States exceeded 100,000,000 pounds annually. Practically 90 per cent. of the amount consumed is utilized in the tobacco industry, the remainder being used in the manufacture of confectionery and drugs. Practically the entire supply is imported into this country from Europe and Asia. In 1918, according to a bulletin issued by the National Bank of Commerce, imports of licorice root fell to 26,983,000 pounds, altho the reduced imports were appraised at \$1,854,000, which is \$135,000 higher than the pre-war average. During the year ended June 30, 1920, China sent to this country 6,376,000 pounds of the total imports. Turkey, Russia and Southern Europe sent the rest.

Two Centenarians Die.—Mrs. Sarah Freeman of Woodstock, Ont., a grand niece of Joseph Brant, famous Mohawk Indian chief, died December 30, 1920, at the age of 108 years. She was born in Stockbridge, N. Y., in 1812. George Crow, who died at Denver Hill, near Littleton, W. Va., on January 8, also reached the age of 108 years. He sought to enlist for military service in the Civil War and was rejected by the recruiting officer for his advanced age.

Osler Society for the Study of Medical History.—The Osler Society for the Study of Medical History has been organized by a group of twelve physicians of the Mayo Foundation. Dr. William C. MacCarty, Associate Professor of Pathology, has been elected president of the Society.

The New York Academy of Medicine.—In accordance with the conditions of the will of the late Dr. Abraham Jacobi, the New York Academy of Medicine has received a bequest of five thousand dollars and a library valued at four thousand five hundred and sixty-seven dollars.

Sale of Surplus Stock of United States Army.—The Surplus Property Branch Office of the Quartermaster General of the Army has sold to Thomson & Kelly Co., of Boston, the remaining surplus of bandages and absorbent cotton, purchased for the use of the Army during the war. The sale netted the Government more than \$1,000,000. The bandages alone represent a quantity sufficient to supply the hospitals and surgeons of the United States with all their needs for at least 18 months. The Boston firm was the highest of a number of bidders for these items. Included in the sale were a million dozen roller and between two and two and one-half million compressed bandages, and approximately 2,250,000 1-ounce packages of absorbent cotton.

WHEN THINGS GO WRONG.

Just buckle in, and keep your grin,
Don't ever say: "We may not win,"
When things go wrong and skies look black,
Don't magnify the foe's attack,
And wail where'er you walk about
The dismal doctrines born of doubt,
But bear the blow, and face the raid,
Don't ever say that you're afraid,
Because your whimper and your whine
Another's grit may undermine.
If you can't see one ray of hope
Don't peddle 'round your gloomy dope,
And say that things are looking ill;
If you can't cheer the boys, keep still.

—*Detroit Free Press.*

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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Safety and Welfare.—Regardless of the complaints that have been registered against the United States Steel Corporation on the basis of its industrial organization, which permits undue strain from long hours of labor, credit must be given to it for efforts to reduce general mortality from more tangible causes. The recent report of the *Bureau of Safety, Sanitation and Welfare* of the United States Steel Corporation presents a study of 220,707 accidents "which have occurred in the plants of the Corporation and which show that but 4.94 per cent. of the total number, excepting those in connection with overhead electric cranes, were due to machinery causes; 44.42 per cent. of the accidents were caused by hand labor, which cannot be controlled by the use of safety devices in appliances." The effectiveness of the system of industrial safety devices installed with the safety committee, the first aid teams and the establishment of emergency hospitals with ambulance service is shown by the fact that the accident rate has decreased in percentage 54.04 per cent. per thousand employees from 1906 to 1920, a result exceedingly grateful, tho short of the perfection that would be found in an irreducible minimum.

That such marked changes in accident rates can be secured thoroly demonstrates the advantageous results of a rational program of accident prevention. Such a

scheme naturally involves the cooperation of the employer and the employees not merely within the industrial environment, but also within the community and in the individual homes, particularly when the latter are provided by the employing corporation.

In the provision for welfare, sanitation and safety and accident prevention, the United States Steel Corporation from January 1, 1912, to September 30, 1920, expended approximately \$36,000,000. In the list of facilities constructed or installed for employees, one notes 28,000 dwellings, 50 schools, 26 churches, 19 clubs, 138 playgrounds, 11 swimming pools, 103 athletic fields, 20 bandstands, 16 housekeeping centers, 3,500 sanitary drinking fountains, 704 wells and springs protected against pollution, 1,700 comfort stations, 3,000 showers, 25 base hospitals, 297 emergency stations, 62 training stations (first aid and rescue), 259 company surgeons (physicians and internes), 101 salaried surgeons, 217 nurses, 75 visiting nurses, 215 teachers and instructors, 30 sanitary inspectors.

Particularly significant is the fact that 43,000 employees are now serving on safety committees, while 17,000 employees have been trained in first aid and rescue work.

AMERICAN MEDICINE holds no brief for the United States Steel Corporation as organized or administered. It cannot fail to

recognize, however, the tremendous efforts that have been made and are being continued to enhance the health and safety of the employees in accordance with the definite principles of modern methods of accident prevention. The breadth of its program is sufficiently indicated to place it among the foremost of American corporations seeking to conserve the most vital assets of industry, the human beings, whose labor makes possible the success of industry.

To Dr. Thomas Darlington, one of the best Health Commissioners New York City ever had, this splendid showing is largely due. He became head of the medical department of the U. S. Steel Corporation soon after the expiration of his term as Health Commissioner, and as a result of his ability as an organizer and executive, as well as a physician, the medical service was straightway put on an efficient basis. Many new and original ideas were evolved, and in a very short time the medical department of the U. S. Steel Corporation became one of the best exemplifications of what industrial medicine can accomplish when properly conducted, not only for the workers, but for every community within its sphere of influence. The men at the head of the Steel Corporation have fortunately been big enough, with sufficiently broad vision, to see what a well equipped, well organized, and thoroly efficient medical department would mean from economic, as well as from social and humanitarian standpoints.

The above results are an eloquent tribute to their common sense and judgment.

Control of Doctors or Drug Addicts?—

Rules and regulations promulgated Decem-

ber 27, 1920, by Walter R. Herrick, Commissioner of Narcotic Drug Addiction of New York State, caused another change in the matter of dispensing cocaine, opium and their derivatives. Regulation 12 reads as follows: "A physician or physicians of any institutions issuing a prescription for, administering or dispensing cocaine, opium or their derivatives in any quantity whatsoever, whether for a drug addict or any other patient, shall only do so upon the official duplicate dispensing blank. An apothecary must not dispense cocaine, opium or their derivatives on any prescription unless it is written on the official triplicate prescription blank. All provisions of law and all regulations applying to the filling of official prescription blanks and official dispensing blanks shall apply to such blanks used pursuant to this regulation."

The attention of the profession is called to the fact that New York State has now taken complete control over the method of prescribing narcotic drugs. It is no longer possible for a physician to write for paregoric, Brown mixture, or to administer the smallest quantities of opium, cocaine or their derivatives unless use is made of the official blank made out in triplicate or in duplicate if dispensed by the physician.

While the purpose of this regulation is designed to secure more effective control of the narcotic addicts, its results will be disadvantageous to physicians who are called upon to be careful in the use of official prescription blanks, and in the maintenance of adequate records. It is doubtful whether this record will in any way benefit the general public that is ill and requires medicaments of the type indicated for the relief of pain or for the sedation of harassing coughs or distresses tending to shatter the circulatory function. Its un-

fairness is manifested by the fact that the layman can secure remedies containing small amounts of codeine without the use of a prescription. Ammonium chloride, too, with Brown mixture can be secured over the druggist's counter upon request. An occasional request for paregoric will be honored, but the physician can only write non-refillable prescriptions for such substances and on an official blank to be made out in triplicate. It is easier to tell the patient to procure the drug than it is to write the prescription, and in consequence there undoubtedly will be greater familiarity on the part of the general public with the facility for getting these therapeutic agents without recourse to a physician.

It is doubtful whether the state inspection of drug stores is sufficiently careful or thoro to secure information from their records whereby the real check upon prescriptions can be maintained, and hence the value of the scheme is materially decreased.

It is unfortunate that physicians practicing in good faith are no longer permitted to take advantage of the second paragraph of subdivision 5 of Section 427 of Article XXII, Chapter 639 of the *Public Health Law* which reads: "He may upon an unofficial prescription blank issue a prescription which does not contain more than five grains of cocaine or more than thirty grains of opium or more than six grains of codeine or more than four grains of morphine or more than two grains of heroin. He may also on an unofficial prescription blank issue a prescription for such quantity of any such drugs in excess of such respective quantities as may reasonably be required in the treatment of a surgical case or a disease other than drug addiction, provided such fact be stated upon the prescription. Each other prescription for

any such drugs shall be written upon a serially numbered official prescription blank in triplicate, to be procured from the department, signed by him and containing in legible English or Latin the name and the amount of the drug prescribed, the name, age and address of the person for whom and the date when the prescription is issued. He shall issue the original and one other of such triplicate prescriptions for delivery to an apothecary and shall retain the other copy on file for a period of two years." This paragraph is manifestly fair and does not provide any privilege which contravenes public welfare.

The New Regulation Should be Tested by Friendly Court Action.

—It is exceedingly desirable that the constitutionality of the new regulation be tested, and some plan should be devised whereby regulations of this character can receive legal interpretation thru a friendly court action under the auspices, let us say, of the State Health Commissioner or the State Medical Society.

At the present time it is necessary that the law be violated even by agreement, and that action be brought, before its constitutionality can be passed upon by the courts. It would seem preferable, however, to effect some means whereby court action could be secured without jeopardizing the interest or welfare of any individual physician because of the stigma which might attach to him in event of the regulation being sustained. Under the law, a violation of any of the provisions constitutes a misdemeanor and is punishable as such. The State Medical Society would be conferring a benefit upon the profession of the state if it were to take definite action leading to a test of the constitutionality of Regulation 12, which practically discriminates against the

physician, and in favor of the layman in the matter of administering cocaine, opium or their derivatives in quantities smaller than those actually provided for in Article XXII of Chapter 639, dealing with narcotic drug control. It is true that under paragraph 421 of Article XXII the Commissioner is empowered to make all regulations, rules and decisions "which in his judgment may be necessary or proper to supplement or effectuate the purposes and intent of this article or to interpret or clarify its provisions or to provide the procedure or detail requisite in his judgment to effectually secure the proper enforcement of its provisions, which rules, regulations, rulings and decisions, when made and promulgated by the Commissioner, shall become rules, regulations, rulings, decisions of the department and until modified or rescinded shall have all the force and effect of statute."

The question arises: Has the Commissioner promulgated a regulation that will properly supplement the efforts at narcotic drug control as previously outlined in Article XXII of Chapter 639 of the Public Health Law?

We want it distinctly understood that the foregoing is not offered in any way as an unfriendly criticism of the Commissioner. We have no doubt whatsoever that these new regulations, as viewed from his standpoint, are entirely justified. But we do feel that the situation is so serious, and offers such a handicap to legitimate medical practice, that a free discussion is called for. To a large extent the earnest medical journals are the spokesmen of the medical profession. It is our aim, therefore, simply to express the views of a considerable proportion of the doctors of New York,

with the object of presenting all phases of a most important problem, and of arriving, if possible, at a solution that not only will correct any existing abuses, but will be fair and just to the great bulk of the profession, who are practicing medicine honorably and honestly, and conforming in every way to the narcotic laws and regulations. In the last analysis, we feel that the function of medicine is too important and essential in the community, to handicap and penalize the many decent physicians for the misdeeds of the few.

In concluding, we wish to leave this thought, the narcotic laws and regulations will never accomplish their greatest good until there is full accord between those who execute them and those who are affected by them. In other words, a law to be successful requires more than mere conformity to its letter; those who are subject to it, must believe in its necessity and justice. Is it not desirable that common ground be reached, if possible, on which the medical profession and the Narcotic Commission can meet with full sympathy in each other's purposes and acts?

Syphilis and Insanity.—"Syphilis as a Cause of Insanity" is discussed by E. Donaldson in *Public Health Reports*, January 21, 1921. The statistics presented are based upon the experience of 88 state hospitals for the insane scattered thru 39 states of the Union.

Percentages varied considerably for inmates and for admissions. This is obvious in view of the fact that those whose insanities are due to syphilis are comparatively short lived, wherefore the percentage among admissions would naturally be higher than it is among the inmates.

The results of the inquiry may be summarized as follows:

Percentage of male inmates whose insanity is due to syphilis	6.9
Percentage of female inmates whose insanity is due to syphilis	2.2
Percentage of inmates (M. and F.) whose insanity is due to syphilis...	3.9
Percentage of male admissions whose insanity is due to syphilis	15.5
Percentage of female admissions whose insanity is due to syphilis	6.1
Percentage of admissions (M. and F.) whose insanity is due to syphilis...	10.4

It is manifest that these figures do not represent the true rate of incidence of syphilis among the insane or the number of those possessing a positive Wassermann reaction. As the author wisely notes, "Some insane persons have contracted syphilis after becoming insane; others contracted syphilis before becoming insane, their insanity being due, however, to other causes."

A study of the occupations of the inmates indicates, as might have been expected, that syphilitic insanities are not confined to any one class of the community, but are drawn from all classes and occupations of the general community.

From an economic standpoint, it is unfortunate that figures were not secured to indicate the duration of stay after admission to state hospitals, and the length of time that the syphilitic insanity incapacitates from labor in order that the economic loss and the financial liability of the state might be properly determined.

The fact that 10 per cent. of the admissions of men and women in state hospitals are due to insanity of luetic origin is sufficient indication of the costliness of this par-

ticular manifestation of syphilis to taxpayers; and it similarly provides an effective argument for greater efforts at the control of syphilis and a wider education of the public concerning its effects upon mentality and length of life.

Why a Health Department?—The January issue of *Public Health*, published by the Michigan Department of Health, again takes the form of the popular almanac. The popularity of almanacs continues, particularly in rural communities. There is considerable advantage, therefore, for educational departments of states to recognize their usefulness for getting messages over to the general citizenry. While the date of sunrise and sunset and the phases of the moon are of practical importance and they far transcend in value a knowledge concerning birth stones and flowers, the brief statements of fact concerning contagious and infectious diseases, personal hygiene, diets, the part that insects and pets play in the transmission of disease are of greater value to individuals. The intermingling of historical statements, fast days and feast days with popularized advice, more or less provides for a reading of the almanac.

Especially commendable are the brief and simply written articles concerning vaccination, pneumonia, whooping-cough, diphtheria, breast feeding, typhoid fever, scarlet fever, tuberculosis and syphilis with succinct statements of the regulations relating to them. There could be little reason for ignorance concerning the laws of the state under such circumstances if the almanac could reach every home. Unfortunately, this valuable edition is limited to 13,000 copies.

A more expressive exposition of the value of the Michigan Department of Health is evident in a résumé of some of the ways in which the Department of Health is trying to live up to its responsibilities to the people. While the list of functions is far from complete, it bears witness to the modernness of the viewpoint of the Michigan Department of Health, and is quoted for the benefit of states and municipalities which have thus far not instituted some of the health facilities provided by progressive Michigan.

The Michigan Department of Health issues its monthly bulletin, *Public Health*, to 13,000 readers; distributes public health literature; assists in the inspections of school children; maintains laboratories for milk and water analyses; conducts Wassermann tests for the service of health officers and physicians; furnishes lecturers on public health topics; assists in arranging "health weeks" for any community; loans exhibits for health campaigns; maintains traveling health clinic; gives expert assistance in establishing baby clinics; assists in establishing county nursing systems; offers you the privilege of a loan library on public health subjects; sends prenatal instruction letters, on request, to expectant mothers; makes confirmatory laboratory diagnoses on all types; offers treatment for venereal disease in all clinics; sends material to health officers for the swabbing of children's throats; uses six educational moving picture films and 1,000 health slides; conducts investigations in stream and lake pollution; advises on water purification and sewage disposal; keeps the 6,500 physicians and health officers informed of health conditions thruout the state; distributes arsphenamine at cost; hospitalizes infectious cases of venereal diseases; aids communities in

Schick testing school children; has corps of physician inspectors to aid communities in control of epidemics.

This rather incomplete list of a part of a state's health activities shows the altered viewpoint of health administration. No longer is the maximum attention fixed upon filth and nuisances. Diagnosis and education, particularly the latter, occupy the center of present-day tendencies. Treatment by the state is beginning to manifest itself as a phase of preventive work on the theory that the control of disease carriers is an essential part of the complete scheme of prevention. To this factor of public health administration there has been considerable objection on the grounds of interference with the liberty of conscience of the patients, and an unwarranted interference with the methods of private practitioners. The discussion of this phase of state activity is by no means closed, and considerable opposition has developed in various countries. None the less, there is a very distinct tendency to establish treatment as part of the necessary work of health protection and disease prevention.

It is generally acknowledged that in its ultimate analysis, the maintenance of public health becomes an individual problem. The necessity of reaching the maximum number of the population is paramount. This can only be done, however, thru community efforts, and the end to be achieved is relatively unattainable without the extensive and continuous cooperation of the community thru its accepted public agencies and the individuals who are at once the support and the wards of these institutions.

Physicians and Legislation.—The special commission of Massachusetts appointed to investigate maternity benefits, whose re-

port appeared in the *Boston Medical and Surgical Journal*, December, 1920, sheds light upon the attitude of the medical profession upon this subject. To obtain the opinion of the medical profession a questionnaire was sent to the six thousand registered physicians of Massachusetts. The comparatively inactive interest of the profession upon matters pertaining to legislative questions related to their own welfare is manifested by the fact that answers were received from only 1,459, and "of these, 78 only were from physicians engaged in obstetric practice during the year 1919."

The answers to the request for reasons favoring or opposing maternity benefits varied greatly. A summary of the situation merits quotation. "The principal objections are based upon the fears: 1. That such legislation tends towards socialism and government paternalism. 2. That such aid would pauperize families accepting it. 3. That the state control of the practice of obstetrics would be the entering wedge of health insurance and subject the profession to politics and graft. 4. That the already overburdened taxpayers would resent the large expenditure that would be involved. 5. That illegitimacy and also the procreation of the most unfit would result from such aid being given by the state. Those in favor of state aid to child-bearing women give as their reasons: 1. That every child as a future citizen has the right to proper care at birth, and that by such care the state would be relieved of a considerable part of the expense of caring for cases of future helplessness that might have been prevented. 2. That conservation of health and the prevention of disease is a proper function of the state. 3. That larger provision of lying-in hospitals and of maternity nurses would save many lives. 4. That

the standard of obstetric practice would be raised and that women would become better educated in the hygiene of child-bearing if the State Department of Health should be authorized to undertake these problems. 5. That the number of abortions would be lessened and that midwives would be put out of business by a sufficient supply of prenatal clinics."

The Commission goes on to state that while the majority are against giving the maternity benefits directly either to mothers or physicians, a majority of practically two to one believe that by state aid in providing increased lying-in hospital accommodations and more widespread maternity nursing service, that it would be possible to reduce the maternal and infant death rates and also decrease their morbidity.

This attitude of the Massachusetts physicians merits examination. It is of importance that the profession was actually approached to obtain a group opinion, and it is regrettable that responses were received from only 25 per cent. of those solicited. Undoubtedly medical opinion was partially responsible for the conclusion that a cash distribution of maternity benefits would not suffice to bring about the relief of conditions growing primarily out of ignorance of hygiene. Similarly, medical judgment was properly evaluated in the formulation of conclusions concerning the need for the employment of maternity nurses and the extension of hospital facilities under the auspices of the Department of Public Health or Commissioners of Public Welfare. It is a source of satisfaction to note the participation of the medical profession in the report, and the obvious effects upon the recommendations. The general viewpoint should secure the support of the majority of practitioners. If the recommenda-

tions are enacted there will undoubtedly be a pronounced beneficial effect evident in the decrease of deaths incident to pregnancy and labor, and a marked diminution of stillbirths and infantile deaths during the first month of post-natal life.

Regardless of the Commission's report, the outstanding significant fact is the harmonious cooperation of physicians and laymen in the determination of recommendations concerning public policy towards maternity aids.

Group Practice.—The part that group diagnosis and group therapy are to play in medicine has created considerable discussion. Progress in medicine has been rapid during the past half century, and the growth of modern science has been so rapid as to make it practically impossible for any physician to know or comprehend the whole of medicine and its collateral branches. In the *Illinois Medical Journal*, January, 1921, Lewellys F. Barker presented a careful and thoughtful study of "Group Diagnosis and Group Therapy." In his opinion, as a result of the study and analysis of group diagnosis and group therapy, they are to be regarded as the "latest phase of progress in practical clinical work." In his words, "The general diagnostic survey, comprehensively, accurately, quickly, proportionally and economically conducted can be of great advantage to persons submitting to it, and therapy, too, can be carried out better thru the coordinated activities of a group than by isolated practitioners."

The arguments against group practice rather indicate "the difficulties and dangers against which group workers should be on guard." There is no reason why medicine should continue to regard itself as a form

of occupation or profession isolated from general community life. It possesses strong bonds that tie it closely to all forms of modern activity. Its reactions are being modified by new experiences and revelations in the fields of sociology, economics, civic organization, industrial life and political activity. There is every reason to believe that its modifications are destined to become more practical in the light of broader experience and contacts with modern living conditions. If the medical profession is blind to these opportunities for advancing its methods of practice at a speed commensurate with the other developments of civilized procedures, it is not unfair to assume that the social organism recognizing and appreciating the value of medicine will seize upon it and organize it in the interest of the large mass of the community. The medical profession is no longer the sole judge of its own powers nor is it the only critic of its methods and organization. The very term "public medicine" is indicative of the transformation of medical ideas into terms of public welfare.

It is of importance, therefore, to weigh all new projects in medical organization and practice in the light of their effects not only upon the medical profession, but on the general public to whose service it is avowedly dedicated. From this point of view, the arguments against group therapy lose much of their cogency. One may properly ask, is this modification of medical procedure rational and advantageous? Is the public to be benefited by its evolution to a more definite and widespread practice? Will this type of medicine hamper the growth and development of the medical profession? Will it raise the standards of medical practice and lead to higher educa-

tional qualifications of practitioners? Will it serve to increase the respect in which the medical profession desires to be held? Will it redound to the credit of the profession, and will it raise the standards of medical services to the general public? These questions call for consideration and a thoughtful analysis of all the factors entering into a decision concerning them.

It is difficult to overthrow traditions. There is a natural hesitancy in embarking upon untried seas. There is a healthful skepticism concerning the crafts to which we entrust our heritages. There is, however, a vast distinction between conservatism and impassioned and unalterable opposition to ideas. The history of man teaches the strength, persistence and dominance of ideas once they become fastened upon the human mind. In the run of centuries, however, ideas have broadened and deepened, and have taken their sources in the springs upon the mountains from which only the few have quaffed. The stream of thoughts on group diagnosis and group therapy is undoubtedly gaining force and headway that require guidance and direction as it winds down thru the valleys of life to give more health and greater security to humanity.

The Pledges to Disabled Soldiers.—

The debt of the nation to the handicapped ex-soldier cannot be repudiated. American interest in the maintenance of national honor precludes the possibility of permanent neglect of this valuable group of citizens. It is a sad commentary upon red-tapism, indifference, callousness, or niggardliness of governmental policy that enables one to regard the disgraceful fact that the

sick and disabled are suffering from almost criminal indifference by authorized bureaus established for their protection, relief and rehabilitation. National gratefulness is scarcely exemplified in the dilatory tactics which have been employed.

The war is not over until ample provision is made for the maximum potential relief of those who have suffered and become handicapped in the performance of military and naval duties. The war is not over until the promises of war are kept. Medical treatment, vocational training and financial compensation were the promises of war. To enable the government to satisfy its obligations and moral commitments, specific duties were given to the Public Health Service, the Federal Board for Vocational Education and the Bureau of War Risk Insurance. Unfortunately, each of these agencies is administratively independent. As a natural result, instead of coordinated effort there are administrative clashes, duplication of efforts, a waste of energy and a tremendous conflict of policies and principles. These are the causes and the evidences of failure to administer the established laws for the relief of disabled soldiers.

Tho there is no treaty of peace with Germany, the war has been over for two years. The results of our brief participation in the conflict are by no means ended in our national life. The dead are at rest. Those who suffered wounds and disease are not all out of our hospitals. Many whose wounds have healed have not achieved complete functional restoration.

Of greater importance, however, to the nation is the failure of governmental bureaus to live up to the promises made during the period of war fever. The disabled soldiers have not secured the degree of

vocational education and training which was promised to them. While 140,000 applicants have been approved for vocational training, practically only 52,000 are today receiving training, and according to unofficial reports only approximately 2,000 have received a complete training, tho the rehabilitation service was begun in June, 1918. Furthermore, up to date, according to Dr. Thomas W. Salmon, no moneys appropriated for disabled soldiers have been applied for the relief of ex-fighters whose disability took the form of nervous or mental disorders. Many handicapped ex-soldiers are today residents of poor houses and insane asylums, lacking the medical provisions to which their services to the country entitle them. More than 70,000 soldiers and sailors have been discharged as mentally disabled and more than 38,000 as tuberculous, and for these groups in the community adequate treatment has not been provided to enable them to receive the care which their sacrifices truly earned.

If any private agency, medical, social, philanthropic or industrial had so completely fallen down in its administrative program, governmental bureaus and authorities would have pointed out the weaknesses of its plans, probably would have condemned as inefficient those in charge of the respective organizations, and undoubtedly would have pointed out how better things could and would be done if centralized federal authority were to direct the particular scheme. The afflicted veterans of the last war are suffering from incompetent bureaucracy. If the soldiers had been as inefficient and self-restrained as the present group of administrators, the war would not have ended in the magnificent manner that it did.

The slogans of war time need revitaliza-

tion in the interest of American manhood, for the disabled man is a national liability until he is converted into a national asset.

Medical treatment, hospital care, educational rehabilitation and liberal compensation are essentials in part payment for their tremendous sacrifices on behalf of the nation. They gave freely of themselves and without complaint or bitterness. They, too, should be rewarded with liberality, willingness and thankfulness for their tested courage, loyalty and devotion to the principles upon which our national life is professedly based. The government must keep faith with the soldiers who fought with faith in their government.

The Doctor's Toast.

Tune: *Auld Lang Syne*.

A toast I have, a worthy toast,
And one to bear in mind:—
We doctors stand the friends at hand
Of all mankind.

CHORUS.

Of all mankind, my boys,
Of all mankind;
God keep our due the service true
Of all mankind.

For brothers, oft, who died to save,
The world no laurel twined;
Yet, high or low, we fight the foe
Of all mankind.
Of all, etc.

For perfect health, and power to wield
The gifts to man assign'd,
We work and pray, and smooth the way
Of all mankind.
Of all, etc.

It matters not how poor or base,
Or what the chains that bind;
Our lives we spend the ills to ends,
Of all mankind.
Of all, etc.

As shines the sun the world around,
To no one race confin'd;
In every land the friends we stand
Of all mankind.
Of all, etc.

R. H. G. OSBORNE, M. D.,
San Francisco, Calif.



The Wrong Choice.—American travelers in Japan are being closely watched by the police. Officials state they have evidence that Americans professing to be tourists are in reality paying too much attention to military conditions in the country, being seen too frequently in the vicinity of gun positions and fortifications. The obvious intimation is that America is establishing a systematic spy system in Japan. Anyone with a knowledge of history can see which way the wind is blowing in Japan and can penetrate the value to the military element in Japan of such publicity. Obviously, an attempt is to be made to wrest more concessions from an already severely tried population in favor of heavier armaments. Such scares are invariably the preliminary of a big war budget. And, in America, there will probably be a reciprocal scare and a consequent hastening to enlarge our navy to meet this new danger. The story of France and Germany from 1870 to 1914 is being repeated. France feared Germany and increased her army. Germany, calling attention to this increase, won concessions for her people in favor of heavier armaments. War became inevitable. Is a similar situation to arise between Japan and America?

Unquestionably, Japan, by her progress and growth in recent years, is challenging the white population of the world. And how is the world preparing to meet this challenge? By a resort to arms. The whole history of civilization has been a cycle of conquests by one race or another and the establishment in power of the superior race—superior in point of military strength. With the advance of civilization it has become possible for a race to dominate another without resorting to brute force, yet the application of brute force alone remains the preferred practice. Germany, with the

new weapons of civilization, her industry, her art, her science, was well on the way to conquering the world; yet she resorted to her armed forces in an effort to achieve what her moral forces were doing better, tho more slowly. Are we going to make the wrong choice too? Every honest American will acknowledge that, in the interest of civilization, the better race should prevail. If the Jap is the superior of the American, he deserves world supremacy. However, there are few of us who, however ready to acknowledge the progressive qualities of the Jap, will concede him superiority. We have no fear of their establishing their moral supremacy over us. Why, therefore, do we not confine the contest to a purely moral one? Why do we resort to the anachronism of an armed challenge, an armed contest which will decide only which is the stronger in point of military resources, when we know that such a contest cannot bring about a fair test? In an armed conflict the side in the wrong has as good a chance as the side in the right if it is as well armed as the other. If we feel ourselves morally and culturally the superior of the Jap and secure against any danger in that respect, we should confine the contest to moral and cultural ground. Disarmament would serve our purpose much better than feverish and futile efforts to arm more heavily to face a danger in which none of us believes, provided it remains a moral danger. Are we not making the wrong choice for a successful defence of our supremacy?

Our Amazing Crime Record.—Figures just made public by the Bureau of Social Hygiene reveal a crime record in America during the past five years which is so far in advance of the highest record abroad as to

amaze the most pessimistic observer. In all England, for example, during the years 1914 and 1918, there were only a total of 420 murders. In the city of Chicago alone in that period there were 455 murders. England has a population of 40,000,000, Chicago a population of 2,500,000. One need not calculate percentages to indicate the amazing preponderance of crime in this one American city against that in an entire nation. The figures are even more startling when one realizes that in London, with three times the population of Chicago, there were only 88 murders in the same period, or one-fifth as many. As for homicides, in England the total was 976, a total outstripped by each of two cities in America alone. Chicago had 1,144 homicides and New York 1,121. Between 1916 and 1918, Glasgow had 38 homicides. Philadelphia, about the same size, had 281 in the same period. In 1917, Cleveland, one-tenth the size of London, had three times the number of homicides. As for burglaries, Chicago and New York had more than the whole of England and Wales together.

What is there in the American temperament that makes for such a high crime record as against England? The phlegmatic English temperament cannot account for such a discrepancy. Life in the large cities of America and England is not so very different. Metropolitan conditions are similar whether here or in Europe. There is as numerous a vicious element in England as in New York, in Liverpool as in Chicago, in Glasgow as in Cleveland. Why should there be so much more crime in the American cities? Here, indeed, is an interesting field for the speculation of our criminologists.

Henry Ford vs. Morris Gest.—Henry Ford may or may not be in financial difficulties, but according to newspapers he is trying to raise a loan of \$75,000,000 (one paper puts the figure at \$116,000,00) in Wall Street to meet the needs of his many enterprises. It would seem that the seven fat years of Henry Ford have come to an end. Some will say he bit off more than he can chew. Others will say that the conditions at present confronting him constitute a judgment. In any event, more than one observer will hazard the guess that his diffi-

culties come so promptly upon the heels of his latest campaign of hatred and prejudice, conducted with such virulence and persistence in his newspaper, that there must be some connection between the two that is very like the normal process of cause and effect. Ford, aside from his business undertakings, has had a unique career, but he has always enjoyed the sympathy of the bulk of the public, grotesque and quixotic as some of his adventures may have appeared. His peace ship, futile tho it was, exposed him as a man whose heart was in the right place. His libel suit against the *Chicago Tribune*, tho it revealed him as a man woefully ignorant of the things that the man of average intelligence should know, nevertheless established him as a straightforward, upstanding, naive, simple type of American. On the occasion of that trial, we commented in these columns on his amazing ignorance of history, of literature, of life, and yet we readily admitted the man's talent and his high purpose. We acknowledged that, despite this astonishing ignorance, his sterling qualities merited the respect and affection of his fellow citizens. His naïveté and unworldliness were, in fact, one of the charms of the man. When presently he acquired a newspaper, in the hope of therein expressing his views, we looked forward to a new and perhaps wholesome element in American journalism. Unfortunately this promise has not been fulfilled. His newspaper has consistently distinguished itself by its mediocrity and in one signal instance by its utter stupidity. For the past few months this paper has been conducting a violent campaign against the Jews of America, a campaign distinguished more for its virulence than for its intelligence. This campaign has cost Ford the sympathy of many former admirers, Jewish and non-Jewish. It has been stupid, unimaginative, meaningless. And it has culminated in a personal attack which may bear evil fruit for Ford. Morris Gest, the son-in-law of David Belasco, a Jew and one of the significant producers of plays in America, has been excoriated as a lewd, ignorant producer, and his "Aphrodite" is mentioned as his outstanding crime. It so happens that Pierre Louys, the author of "Aphrodite" and "Chansons de Bilitis," is one of the really fine artists of modern French literature. Both works enjoy a great and

deserved popularity in France and thruout the world. In producing "Aphrodite," Gest made a contribution to the American stage which, bold tho it may have been in some details, brought to this country a play which aroused only the most favorable comment when produced in Paris. The play was a most unfortunate choice from the point of view of an attack against Jewish influence on the American stage. The producer was likewise an unfortunate choice. Gest has responded with a libel suit for \$5,000,000. The trial will be followed with keen interest. Perhaps the public will learn definitely now whether Ford himself is responsible for this regrettable anti-Semitic campaign or whether he is merely the dupe and instrument of other more malevolent forces. There is no place in America for campaigns of race-hatred. It is contrary to the spirit of the nation. It is a violation of the spirit that animates our social and political life. It is an abominable performance, no matter what race it is directed against. The sooner it is dismissed and forgotten, the better.

A Deed to Be Proud Of.—If there is an American who can read the letter below without feeling a glow of pride thruout his being, there is something wrong with his mental make-up.

The story which appears in the New York *Times* for December 13, 1920, refers to the treatment given to the Austro-Hungarian prisoners of war at the camp of Krasnaja Rjetchka, near Chabarovsk, in Eastern Siberia, from the officers of the Twenty-seventh United States Infantry, which was commanded by Colonel C. H. Morrow.

It seems that influenza had broken out in this camp of 1,800 prisoners. The Russian authorities could not—or would not—cope with the situation, and the poor victims were dying like flies. Thru some God-given stroke of fortune, this camp was turned over to a group of American army officers and their men on October 8, 1918—and straight-way things began to happen. The story of what followed is one of the finest records in the entire history of American service in the great European War.

We cannot do better than to reproduce the following letter of appreciation, written

to Colonel Morrow by Lieut.-Colonel Reder of the regiment succored by the Americans.

"On my return from Russia, where I spent six years as a prisoner of war, I feel it my first and most sacred duty to state emphatically in the name of the 1,800 Austro-Hungarian war prisoners of the camp of Krasnaja Rjetchka, near Chabarovsk in East Siberia, that we owe our lives to the American officers of the Twenty-seventh Infantry Regiment, to Colonel C. H. Morrow, Captain E. Larkins, Captain Surgeon Dr. Burdett and First Lieutenant John James.

"At the beginning of October, 1918, influenza broke out in our camp. The physical condition of the prisoners was at that time so reduced, in consequence of the wretched accommodations and the miserable and insufficient food provided by Russian authorities, that the disease spread with frightful rapidity. Hardly anybody was spared, and there were soon 1,800 serious cases. The men who were not dangerously ill had to nurse their bed-ridden comrades. No medicines were available, the shortage of food was more and more terrible, and we were all convinced our camp would soon be one vast cemetery without a living soul to tell the sad tale.

"At this horrible pass, when we were all a prey to despair, Colonel Morrow and Company E of the Twenty-seventh Foot Regiment, under the command of Captain Larkins, arrived and took charge of our camp. This happened on the 8th of October, 1918. The Americans brought provisions for a month and soon effected a complete change in the conditions of our camp.

"Thru the energy, untiring activity, kind heart and clear insight of Captain Dr. Burdett our miserable hospital was soon transformed into a model establishment. Under the new régime the epidemic was soon quelled and our death rate, which had been appalling, sank to a minimum.

"After having thus saved the lives of the prisoners, the noble, generous and wise American commander, Colonel Morrow, set about making these lives worth living. Workshops of all sorts were arranged, schools founded, a library, a theatre, baths, a coffee house, were built and grounds for every kind of sports were laid out. Funds were provided by the Americans. The prisoners were happy to do the work. If I tried to describe all that was accomplished in our camp under American protection I should have to write a book. At some future period I may be induced to do so, and every page of the as yet unwritten book will be bright with deeds of American kindness and good sense, glowing with the warmth of our gratitude.

"Here I only wish to quote the words spoken to me at parting by a foreign visitor, after having looked over our camp: 'I have seen camps of war prisoners all over the world,' he said, 'but not one so beautiful, so well organized, conducted and provided for.'

"After all those weary years we felt raised

to the dignity of manhood again, and we began to love the life to which we had been restored. And, now we have returned to our dear ones at home, we should like all the world to know that we owe our lives, our health and happiness, our power for good in this world, to the noble American officers of the Twenty-seventh Foot Regiment, to the great American nation."

(Signed) FERDINAND REDER,
(Lieut.-Colonel).

The foregoing is a tale of humane treatment to a defeated foe, that will live for many a day. A nation, whose soldiers can thus show such commiseration and kindness to its prisoners of war may hold its head high among the civilized people of the world.

Charity and Tolerance.—How often it happens when we see some newspaper account referring to a physician in laudatory terms, that we smile to ourselves and attribute the statement to the doctor's own efforts to secure personal publicity! Rarely are we charitable enough to give the apparent offender the benefit of the doubt, and allow that he has possibly been the innocent victim of circumstances which were entirely beyond his control. A case that recently came to our notice exemplified so clearly the way such an instance of "self-advertising" can occur without the doctor being a party to it in the slightest degree, that we never again will be guilty of condemning a medical man for any newspaper announcement, however suspicious it may appear, without knowing the true facts of "how it happened."

The case in point was that of a physician who had occasion to visit a town where he had many friends who had not seen him for over a year. The day after he arrived he received word of a special honor that had been paid him, and that gave him the greatest satisfaction and pleasure. Very naturally, he informed his wife of this honor, and her joy was as great as his. Delighted and happy at the good news, and with a heart overflowing with pride at what she considered a just tribute to her "lord and master," this good wife knew no reason why the facts should be kept secret. Consequently when one of the good friends of herself and the doctor called the same afternoon, she did not hesitate to tell of the gratifying news received that morning. If

it had stopped here, all would have been well. But the friend, likewise pleased to learn of the good fortune that had come to the doctor, and thinking that the information would be interesting to his local acquaintances and friends generally, took pains to get in touch with a particular friend—a reporter on the local paper—and gave her the story of the doctor's new honor. She was delighted to pass along what she felt was a nice bit of news, not only because of her earnest desire to render what she thought was a kindly service to the doctor, but also to do a favor to her friend, the reporter.

The next day the item appeared and like the unwarranted announcement of Mark Twain's death, "it was much exaggerated." There was nothing really untrue in what was said, but it was written in such a way that it made the doctor appear a good deal more of a savant than he really is. When the doctor's attention was called to the item, he was deeply humiliated and chagrined. In some respects the information given was premature, and it was stated in a way that made it appear very suspicious, as having been directly inspired. At first he was indignant, and took steps to find out who had given out the news. Gradually he traced back the whole matter. Deeply annoyed tho he was, when he took into consideration the kindly motives and intent, he could not very well express his actual feelings. He could not write to the paper and complain at, or correct, the item, for he would either cause public embarrassment to a friend, who had simply done what she thought was a kindness, or lay himself open to further suspicion of publicity seeking. After all, the best course seemed to be to ignore the whole matter. But it taught our medical friend a good lesson. Never again will he hastily judge any of his professional colleagues for newspaper items however flagrant pieces of inspired advertising they may seem to be. He knows now only too well how easy it is for such a thing to occur without the apparent beneficiary knowing a thing about it. Is there not an excellent moral in the foregoing for all of us?

Weighing and Measuring of Children.
—Every day it is becoming more evident

that the intelligent care of growing children requires definite knowledge of their physiques and weights at various ages. Consequently, much interest was attached to a conference of representatives of the U. S. Children's Bureau, the U. S. Bureau of Education, the U. S. Public Health Service, and of various educational and private organizations working for the betterment of children, which was recently held in New York City, to establish a standard table of the heights and weights of children.

At the present time various tables of measurements are in use by the different organizations engaged in weighing and measuring children. The results of the tests are not comparable; also considerable confusion has arisen because of apparent differences in the standards of normal development as given out by the various organizations. The conference brought out the fact that the various tables are in substantial agreement as to fact, the differences being chiefly matters of presentation.

A complete standard table will be prepared by a committee, and all future weighing and measuring of children can then be in accordance with this uniform table. The findings of the tests will be comparable and much greater use can be made of the facts revealed.

The conference was attended by the following prominent workers in the field of child hygiene: Dr. Bird T. Baldwin, Iowa State University; Dr. Taliaferro Clark, U. S. Public Health Service; Dr. William R. P. Emerson, Nutritional Clinic for Delicate Children; Dr. L. Emmett Holt, Child Health Organization; Mr. Ira V. Hiscock; Mr. Frank A. Manny, Nutritional Clinic for Delicate Children; Dr. Anna L. Rude, U. S. Children's Bureau; Mr. Edgar Sydenstricker, U. S. Public Health Service; Prof. Edward L. Thorndike, Columbia University; Mrs. Ira Couch Wood, Elizabeth McCormick, Memorial Fund; Dr. Thomas D. Wood, Columbia University; Dr. Robert M. Woodbury, U. S. Children's Bureau.

The Work of Health Commissioner Copeland.—We do not want to miss this opportunity of commending the splendid work that Health Commissioner Copeland and his associates are doing in meeting the

menace of typhus to the people of our city and country. The conditions present many difficulties, and as long as immigration from Europe is permitted, the danger that individuals infested with lice will get into the country must confront us.

Dr. Copeland, however, has handled the situation energetically and well, and if this dread disease does enter the country thru the Port of New York, it will not be his fault, or because he has not used all possible vigilance—or failed to give ample warning. He has done his best in the face of handicaps that the people at large know nothing about.

In this connection, AMERICAN MEDICINE wishes to emphasize that the Health Commissioner of New York, at this trying time, should be given the fullest cooperation by the medical practitioners of New York City and vicinity. Comparatively few American physicians have ever seen a case of typhus, and consequently every medical man should post himself to the best of his ability to be able to recognize the disease immediately, if he encounters a case. The matter is so important and fraught with such grave possibilities, that if a physician even suspects a case, he should not delay, but seek the aid of the Health Department at once. It is no reflection on him that he has never seen a case, and it is not to his discredit if he calls in assistance. Rather is it a testimonial to his professional integrity and sense of responsibility. Another thing, any physician who encounters a patient afflicted with lice, owes it to the public to see that that patient is treated for this condition as vigorously as for any active malady. Irrespective of the potential dangers in connection with typhus, there is the possibility that body vermin may play an important part as carriers of other disease organisms. It is very far from our intention to preach or lecture to our readers. Our purpose is simply to emphasize certain things which in the routine and hurry of every day practice are apt to be overlooked. The active and faithful support of Health Commissioner Copeland cannot fail to mean much to him, as a conscientious, hard working official with an enormous burden on his shoulders, and the duty we owe to the people at large, as well as to our own patients, makes it imperative that we stand with him in the present crisis.

The Romance of Nursing Abroad.—The drudgery of the nurse's profession at home, relieved only very occasionally by an inspiring chapter that touches on the border of romance is, for a not inconsiderable number of American nurses who have consecrated their services to their stricken fellow-men in the destitute areas of Europe, a perpetual and never-ending romance: the romance of foreign lands, of strange peoples and customs, and of course, the romance of self-sacrifice and service.

Recently we printed an article dealing with the interesting experiences of a group

that of the doctors is, nevertheless, of value in view not only of the lesson they brought from America to a foreign people but of the broad horizon and the quick sympathy they are sure to bring back with them to America when they return. To American medical men, the experiences abroad of a group of women in a kindred profession should be of no little interest.

The "Real Thing" in Open-Air Treatment.—The picture on our front cover, and the one herewith, depict a form of



The cold has no terrors for these youngsters.

of American doctors in the service of the American Red Cross in Europe. We are now privileged to give some notes and observations by members of a group of nurses sent by the American Red Cross into disease-menaced and nurseless Poland, to instruct the women of that country in the methods of American nursing.

The three brief articles, appearing on pages 103-105, written under the inspiration of the new environment in which the writers found themselves and the quaint people and customs which were revealed to them in the course of their work, comprise an imperfect record but an instructive one of their efforts abroad. The record, tho not as thrilling as

open-air treatment that will cause a chill to run down the spinal column of many who view them. It hardly seems possible that human beings could become adjusted to such conditions. But it is evident they can, and according to report, children thus treated, soon come to enjoy going naked, even on the coldest days. The stimulating effect on bodily metabolism is said to be marked, and these youngsters develop prodigious appetites. Their appearance certainly points to the advantages of this line of treatment over anything of the "hothouse variety," but it is doubtful if the average person will ever look forward to it with any degree of pleasurable anticipation.



ORIGINAL ARTICLES

THE ART AND SCIENCE OF MEDICINE IN BIBLICAL TIMES.

BY

C. HENRY LEFCOE, M. D., A. M.,

Chief Out-Patient Department Clinical Medicine, Jefferson Hospital; Pediatricist to the Eagleville Sanatorium, Philadelphia.

So great have been the advances made in medicine since the epochal work of Pasteur, Lister, and Koch, and the discovery of anesthesia by Morton in 1846, that the comparatively recent discoveries and glorious efforts of Hunter, Harvey, Jenner, and of many other zealous investigators are apt to be relegated to a dignified but forgotten past. It behooves us, as interested students and intelligent physicians, to pause occasionally and review the history of this wonderful art, so that we may appreciate the numerous obstacles that were conquered and to receive some insight, if we may, concerning the achievements that the future holds in store for the betterment of the health of humanity.

To begin with, we should be cognizant of the facts that in the earliest period in the history of mankind, not only were the remedies at hand of the crudest possible sort, but also that disease was common and very prolific. Add to these the fact that the practice of physic was largely in the hands of priests and prophets and that it was thoroly saturated with superstition, it can be readily conceived that at the start medi-

cine looked out upon a gloomy and uncertain course indeed. Physicians, however, were recognized quite early in biblical times, for we are told that Joseph employed "house physicians," and that Moses clothed them with the authority of supervision in cases of infectious diseases. Ben Sira informs us that at a later period the services of physicians were highly appreciated for the people were commanded to

"Honor a physician with the honor due unto him, for the uses which ye may have of him, for the Lord hath created him. The Lord hath created medicines out of the earth and he that is wise will not abhor them. And He has given men skill that He might be honored in His marvelous works. My son, in thy sickness be not negligent, give place to the physician—let him not go from thee for thou hast need of him." Physicians' services were rewarded with fairly large fees, a common ancient remark being, "a physician who takes nothing, is worth nothing."

Disease was looked upon as divine punishment for any kind of sin, the severity varying with the degree of the misdemeanor or the enormity of the crime. It was, furthermore, supposed that children were frequently punished for the sins of the parents,

for we read of the plaint, "Our fathers have sinned and we have borne their iniquity" and also, "The fathers have eaten a sour grape, the children's teeth are set on edge."

Moreover, it was believed that God had prepared the remedy long before the disease was inflicted and it was therefore considered important to show repentance and make some sacrifice before the priest or physician was sent for. Usually the physicians took charge of contagious cases and certain branches of public health, while the services of prophets or priests were sought where ordinary medical or surgical aid was required.

Among the famous priests and prophets may be mentioned Nathan, Abijah, Elijah, Elisha and Isaiah. In Egypt, medical schools existed as early as 1500 B. C., but there are no proofs of any system of medicine in Palestine at that time. Later, however, Jewish physicians became well known in the East, their writings being preserved in the Talmud. The Hebrew doctors acquired their knowledge by tradition, by means of dissection, by observing the course of disease, and by animal experimentation. In a large number of instances, medical knowledge was handed down from father to son, and in calling upon his patients a physician was generally accompanied by an apprentice. Hebrew literature cites a medical book supposed to be the work of King Solomon and revised by King Hezekiah and the Talmud refers to a book on *Materia Medica*, but neither of these has been preserved. As all ancient people considered the dead human body as belonging to God, and therefore, sacred, dissection of cadavers was universally enjoined. This fact would preclude a knowledge of anatomy until the advent of the Greek school under the leadership of Aristotle, in the

fourth century B. C., were it not for the numerous quotations thruout the Bible, such as, "He poureth out my gall upon the ground" and "his vessels are full of fluid and the marrow of his bones well moistened," in the Book of Job.

The hygienic rules of the Mosiac law compelled the Jews to ascertain the number of bones in the skeleton and this was given as 248, which, it is declared, arbitrarily coincides with the number of commandments contained in the Talmud. The following are enumerated: hands, 30; forearm, 2; elbow, 2; arm, 1; shoulder joint and shoulder blade, 4; foot, 30; ankle joint, 10; leg, 2; knee joint, including cap, 5; thigh, 1; hip joint, including head of femur and innominate bone, 3; spinal column, 18; ribs, 11; sternum, 6; sacrum and coccyx, 6; 9 in the head, in which were mentioned the vertex, two condyloid processes, the foramen magnum, the fontanelles, maxillary bone, maxillary arch, and nasal bones. This enumeration was constantly disputed until Rabbi Ishmael (100 A. D.) obtained permission for an autopsy on the body of a young harlot who had been sentenced to death. Ishmael and his disciples boiled the corpse for a long time and in so doing separated the epiphyses, thus erroneously bringing the number of bones up to 252. Theodos is cited as a famous osteologist of biblical times.

Muscles were indifferently alluded to as the flesh, and the tendons as "giddim," altho the abdominal and psoas muscles were specified.

The salivary glands were described as "fountains" located under the tongue. By experiment, the capacity of the pharynx was proved to be greater than was apparent, and it was declared that "a hen's egg could pass thru whole."

The pharynx gave off the larynx and esophagus, which was composed of an outer, muscular layer, and an inner, serous layer; this serous layer being provided with longitudinal folds and cilia. It was also taught that the larynx consisted of a large ring of cricoid cartilage, thyroid cartilage, and the epiglottis. The trachea was declared to be made up of incomplete cartilaginous rings and in addition, membranous ones.

The digestive tract of ruminating animals was defined as follows: The food passed from the mouth into the pharynx, next into the esophagus; from the esophagus into the reticulum, then into the psalterium, abomasum, duodenum, small intestine, blind gut, and from the large intestines into the rectum, from which the food leaves the body by way of the sphincter ani.

Rabbi Samuel taught there were no ciliary projections beyond the pylorus and also that the stomach and intestines were covered with peritoneum which made up the greater omentum that was attached to the greater curvature of the stomach and the beginning of the small intestine. It was also taught that a fold of peritoneum separated the liver from the diaphragm, but they were connected with each other by a narrow tube. The pancreas, supposed to be an accessory gland of the liver, was known as "the finger of the liver."

The abdominal wall was composed of an inner, peritoneal layer, and an outer, muscular one. The spleen and kidneys, though frequently mentioned in the Talmud, are not definitely described. The structure of the lungs, on the other hand, was well understood.

The heart was said to be composed of two ventricles, the right being larger than the left, and until Rab's radical declaration,

the aorta was thought to contain air, not blood. By all the races of antiquity, the heart was deemed to be the center of emotion, wisdom, and goodness, while the kidneys were looked upon as the base for passion and determinations; the bowels as the organs from which sympathy and affection issued.

"A sound heart is the life of the flesh" and "A wise man's heart is at his right hand but a fool's heart is at his left" are proverbs which denote the important rôle the heart was assigned, both in a physical and spiritual sense.

Heart failure was often recognized; Jacob fainted when Joseph's exaltation was reported to him. On hearing that the Philistines had captured the Ark, Eli fainted, the fall proving fatal. Daniel fainted on receiving a message from Gabriel. Saul fainted and became ill when he received a message from Samuel thru the Witch of Endor.

A broken heart, as at present, was always used metaphorically, but expressed repentance for wrongdoing, rather than a rupture of a romantic nature.

The brain is not mentioned in the Bible, but the Talmudists taught that it had two coats, and that the spinal cord began below the condyloid processes.

The Bible explains the laws relating to circumcision, flux, and menstruation, thus indicating an extensive knowledge of the reproductive organs. The rules governing the cleanliness of women during pregnancy and premature births encouraged a close study of embryology, and King David was famous as a student in this subject. Rabbi Samuel claimed that he could tell correctly the age of a fetus which was said to be fully formed at the end of the sixth week.

Aba Saul, who was a grave digger by

profession, but studied embryology, probably in connection with his work, thus describes the fetus in the sixth week: "size that of a locust; eyes like two specks at a distance from each other, so are the nostrils; feet like two silken cords; mouth like a hair; the soles are now well defined." Aba Saul adds the precaution to examine the embryo in oil, and only in sunlight, probably as protection against infection.

Rabbi Samuel, however, proclaimed the more modern view of the impossibility of differentiating the sex before the end of the fourth month. Monstrosities of various kinds were known, and were considered as unfavorable omens, often prophesying national disaster.

The Bible confounded the blood with the soul, while the Talmudists considered blood the most important element of the body. The Bible notes the relation between strength and development of muscles, and the Talmud cites the change in the contour of muscles while in action. Respiration was compared to combustion, and life was said to be impossible with expired air. While the glands received their supply from a common source, it was known that each gland produced a secretion peculiar to itself. Saliva, besides moistening the food, adds to its palatability. The stomach was likened to a mill, as its function was considered purely mechanical, that of churning, while digestion proper took place in the intestines. The end of the process of digestion was indicated by the return of the appetite, the time varying in different persons. Overeating was compared with the making of a fire before the removal of ashes, therefore, regular evacuation of the bowels was considered an aid to digestion.

The seat of the intellect was in the brain, while motion, it was thought, depended en-

tirely upon the continuity of the spinal cord.

The menstrual fluid was regarded by Rabbi Meir, as an extra-nutritive material, thrown off periodically when useless, but during lactation was transformed into milk.

Fear and cold were considered causes of amenorrhea.

The rabbis early evinced their remarkable knowledge of the principles of medicine when they recognized that symptoms were merely the external signs of pathologic changes in the tissues of the body. This fundamental principle was never accepted by Hippocrates and his disciples, and but slightly appreciated by Galen. The pathologic investigations of the priests had their impetus in the law regarding "the flesh is torn of beasts in the fields which becomes 'unclean.'" This law was surrounded with rules governing the measures to be adopted by individuals who came in contact with the animal that "dieth of itself or is torn with beasts," thus compelling the rabbis to possess sufficient pathologic knowledge to enable them to decide the question of an animal's fitness as food.

The lungs were subjected to careful pathologic investigation. It was noted that redness of the lungs indicated hyperemia, a condition more or less benign; that blue or light green discoloration was not necessarily a dangerous condition, while we are informed that black discoloration denoted disintegration of the lung tissue beyond repair. A bright yellow color of the lungs signified a fatal condition. If any part of the lungs could not be inflated it was regarded as an all-important measure to determine whether the obstruction was due to pus or mucus in the bronchi, dislodged in the act of coughing or if the obstruction was caused by thickening of the tissues. In the latter instance, the carcass

was rejected as food, which was also the regulation in instances of caseous degeneration. Likewise, softening of the lung, or a pitcher-shaped cavity rendered the animal unfit for food. The law is thus promulgated in cases of animals having collapsed lungs; "if after emersion in water the lungs can be inflated with air, the flesh may be used as food." The Talmud describes several varieties of pleurisy which were not regarded as fatal. The physiology of the nervous system is recognized in the book of Daniel. Palsy and paralysis are frequently mentioned and some miraculous cures, before the birth of Jesus, are noted. Uzzah, Ananias, and Sapphira, died of apoplexy. According to legend, the birth of Eve occurred during a profound sleep or trance. Abraham and Saul also fell into a deep sleep in the cave, but probably from profound exhaustion. Sisera and Jonah were similarly affected, and Christ also became fatigued and fell into a deep sleep in a boat during a storm.

Some remarkable notions were held concerning brain lesions. If the outer coat of the brain were injured the prognosis was favorable, but the smallest perforations of the inner coat were very dangerous. Abimelech, altho struck on the head by a millstone, did not immediately become unconscious, showing but a slight amount of pressure. When Eutychus fell he sustained a broken neck with mortal compression. Ahaziah died as a result of injuries received in a fall thru some lattice-work.

Mephibosheth, the son of Jonathan, became lame in both feet after dropping out of his nurse's arms, but it is possible that his lameness was due to bone or joint involvement, and not to any lesion of the central nervous system.

Rabbi Jacob claimed that all injuries to

the spinal cord were serious, but later, this was antagonized by the editor of the Mishnah, who proclaimed that only injuries involving half the diameter of the spinal cord were fatal. Rabbi Jemar diagnosed a case of Ischiagra in a sheep that dragged its hind legs, but the diagnosis was revised after autopsy as a case of spinal paralysis caused by an injury to the spinal cord. Rabbi Levi saw a man with tremor of the head and considered the case one of softening of the spinal cord. Commenting upon this case, Abaya remarked that it was not serious, but declared that such patients lost their reproductive functions. Much notice was taken of melancholia and other diseases of the mind. Saul's case is singular and interesting, because it is the first instance of insanity that is mentioned in the Bible. Naturally of a timid and reserve disposition, Saul was easily conveyed by praise into a state of euthanasia, and while thus transformed became irresponsible, murdering his friends and relatives, and rewarding his enemies, but always liable to return to normal condition when influenced by important events. After such attacks, he suffered a period of melancholia. The insane, during the stage of exaltation, were generally looked upon as beings exalted by divine acts and therefore respected as sacred individuals. Frequently this belief caused malingering and led David to take advantage of it before Achish.

Nebuchadnezzar, who was probably the most remarkable ruler of ancient times, having built up the city of Babylon, who was victorious in war and virtuous in his domestic relations, who foresighted in times of peace, encouraged the progress of arts and mechanics, displayed, unfortunately, premonitory symptoms of exaltation. Possessed of a violent temper, harboring

an all-conquering enthusiasm for great deeds and greater results, it is probable that overwork, mental and physical, destroyed his reason. Altho successful in war and in the arts, Nebuchadnezzar was tyrannical and vainglorious, setting up his own god, whom he worshiped, and to whom he compelled his subjects to be loyal. Idolatrous, tho he was, he nevertheless paid strict attention to dreams, believing them to be divine messages. The frequent periods of exaltation to which Nebuchadnezzar was subject, induced Daniel to pronounce him insane. During these attacks, which lasted from four to seven days, Nebuchadnezzar roamed about the gardens of the palace, entirely naked. It is likely that the touch of clothing irritated his sensitive skin, which is frequently the case in the insane. His body was described as being "wet with the dew of heaven," "hairs were grown like eagle's feathers," "his nails like bird claws" and "eats grass like oxen." The only pathologic lesion of the heart recorded is perforation, and was considered a very grave one. Cut throats, we are informed, were fatal when half or more of the circumference of the trachea was involved. It was taught that longitudinal wounds of the trachea heal rapidly and loss of tissue was not necessarily ominous. Perforations of the esophagus permitting the passage of food into the mediastinum were given an unfavorable prognosis.

Volvulus, perforation of the stomach and intestines, were all dangerous lesions.

Animals, as well as human beings, could live after removal of the spleen, but rupture or injury to that organ caused death. Atrophy of the kidney and abscesses were fatal, but an edema of the kidneys, consisting of clear fluid, was not serious.

In considering the pathology of the liver,

the Talmud enumerates the following: A dry and bloodless organ that crumbles under the nails; abscess, and hardening. Removal of a portion of the liver, providing the biliary duct and that "part around which the liver receives its vitality" is left undisturbed, was not followed by death. Abscess of one testicle produced sterility. Hypertrophy and atrophy of the testicles, hernia, and elephantiasis of the scrotum, were recognized, and varieties of hypo- and epispadias were defined. Many pathologic conditions rendered a man a "cripple" in the eyes of the law, and they prevented him from performing any religious ceremony in the Temple. These included various deformities of the bones of the head, spine and extremities. Crutches and various kinds of orthopedic apparatus were used. Hemophilia and a hereditary tendency thereto were recognized and appreciated.

Wounds caused by various weapons in different portions of the body receive frequent mention in the Bible, as do also inflammation, abscess, gangrene, and offensive discharges. Wines and oils were applied to wounds and inflammations, and sutures and bandages were also employed. Circumcision and castration are the only surgical operations noted in the Bible.

To correct the universal impression that circumcision is an exclusively Jewish rite or surgical operation, it may be stated that according to Andrée, circumcision is still practiced by over 200,000,000 people. Philostorgius informs us that the Arabs performed the operation as early as 342 B. C., but more as a test of endurance than as a religious rite.

According to knowledge gained from a study of Egyptian mummies, we are informed that it was practiced in that country

between 1614 and 1555 B. C. Circumcision was practiced universally by Mohammedans; in the Balkans, Asia Minor, Persia, portions of India, the Malay archipelago, the northern part of Africa, and Australia.

Cortez found the operation was employed in Mexico, and the Dog River Indians also practiced it, and Las Casas reported its employment by the various tribes of South American Indians.

During the Talmudic period, many physicians devoted themselves exclusively to surgery. Various surgical instruments were in use, and during operations the surgeon wore a tunic. A sleeping potion was given as an anesthetic for major operations.

Venesection was popular for the healthy as well as the sick, and Mor Samuel Yarshinai, in imitation of nature, recommended its employment once a month until the age of fifty. Cupping and leeching were frequently resorted to. The Talmud discusses dislocations, fractures, amputations, and trephining. Artificial teeth were made of hard wood, gold and of silver. Intubation was resorted to when animals suffered from laryngeal obstruction and plates were used for perforations of the skull. Uterine specula, tho crude, were employed. Edges of old wounds were freshened up to encourage healing, and all wounds were protected, because it was noticed that wounds exposed to the air did not unite well.

An operation for imperforate anus is described in the Talmud. In wounds of the belly wall, the abdominal viscera were spontaneously replaced by frightening the patient, thus causing relaxation of the muscles, the wound being finally united by sutures. Intestinal parasites and hydatids are frequently noted. The Talmudists described the delivery of the fetus thru an

abdominal incision. It was claimed that nasal polyps caused foul breath. The descriptions of diseases and epidemics are vague and often alluded to as visitations from God for individual or national unrighteousness. Nevertheless, fairly accurate deductions can be made from the types of diseases now prevalent in Biblical lands. It is probable that the most common diseases were the various forms of malaria, tropical typhoid, typhus, Mediterranean and Malta fevers. All febrile diseases the priests divided into four stages: incubation, onset, augmentation, and decline or recovery.

Shahepeth, translated as consumption, is the name given to a disease characterized by wasting and fever of several weeks or months' duration; but as phthisis is not common in Egypt or Syria, it is likely that Malta or Mediterranean fever was meant.

The enemies of Jerusalem were threatened with Makak or fester, which was a slow, painful affection associated with ulcers and fever. Philo tells us in his "Life of Moses," that the Sixth Plague of Egypt was characterized by a red papular eruption which progressed thru the various stages of vesicle and pustule, finally coalescing and forming "a continuous ulcer from head to foot". Smallpox appeared among the Arabs for the first time in A. D. 370, but Mas Udi states that the Jews were familiar with it long before.

Kalah, to disappear, is the term applied to loss of strength of the aged, and also to loss of flesh in protracted illness.

Pestilence, or plague, was used to define any violent and fatal disease sent as divine retribution upon the various tribes. Moses warned Pharoah that unless the Israelites were set free, his kingdom would suffer from a pestilence. The Hebrews them-

selves were punished with four distinct outbreaks during their journey in the Wilderness. At Kibroth-Lataavah, plague appeared after they had feasted on quails which were infected in Arabia, whence they came. After the rebellion of Korah, plague broke out for the second time, but it was readily calmed by the earnest prayers of Aaron. The third outbreak, called Maggēphāh, arose when the false reports of spies caused discontent in camp, which provoked many infractions of the sanitary regulations. The fourth epidemic appeared after the Hebrews had carelessly commingled with the Moabites. David's sin of ordering a census was likewise punished. Jehoram's sin was punished by a pestilence termed Noisome, defined as "walking in darkness," as its onset usually occurred at night, and altho such prophets as Jeremiah, Ezekiah, Amos, and Habakkuk often warned against it, it appeared during the siege in Jerusalem, and also during the retreat from Jerusalem into Egypt. It is also probable that it was this disease which caused the annihilation of Sennacherib's army. Bubonic plague was as great a scourge to humanity in ancient times as it is now, but the Hebrews might have escaped its dreadful ravages had they avoided exposure as rigidly as they were ordered. When the plague appeared in Tammith, the victims were advised to abstain from food and blow trumpets, while those not affected were to fast without blowing trumpets.

After the capture of the Ark by the Philistines, the inhabitants of Ashdod were stricken with emerods (swellings or rounded eminences), which was an infectious disease, frequently fatal, often appearing in epidemics, characterized by distinct tumors in the lower part of the body. Its infectious and epidemic nature would

preclude the possibility of any relationship to hemorrhoids, which it resembles in name only, tho otherwise similar to bubonic plague.

Among the Biblical nations, digestive disturbances were common. Blood flux, to which the father of Publius succumbed, was probably acute dysentery or cholera. Sir W. Aitken informs us that the hemorrhagic type, showing ulceration and gangrene in the bowels, was common in Malta. Jehoram died from chronic dysentery, after two years of suffering. Digestive disturbances were graphically and forcibly described.

Like Plato and Praxagoras, the Jewish physicians ascribed many conditions and diseases to biliary changes, but of the pathology of the liver, nothing was then known.

In the eastern part of the world, dermatology has always embraced a wide and prolific field. Itch, scabbies and tinea tonsurans were quite prevalent.

In Egypt, an inflamed ulcerated lesion was known as the Botch, and this term was applied to the malady of Job, and also boils, as those with which Hezekiah suffered, as well as those which characterized the Egyptian plague. As the nomenclature of skin diseases remains vague and unsatisfactory at this date, it is safe to presume that they were poorly described by the ancients.

Altho venereal diseases were not known in Europe until 1495, it is, nevertheless, probable that they existed in the Holy Land, as the Mosaic Code embodies laws for their prevention. Twenty-four thousand soldiers infected with syphilis were put to death by order of Moses, who meted out the same punishment to all the harlots after the Median War.

Blindness and various inflammations of the eyes were common and still compose one

of the nauseating sights in Palestine and Egypt.

Eli became blind at the age of 98, while David's sight was lost before that age. Abijah and Isaac also became sightless in old age. Altho Moses became very old, it is noted that his eyes were good. Elymas, it is recorded, was stricken with temporary blindness as a divine punishment. The Syrian army, in pursuit of Elisha, was temporarily overcome with blindness thru some hypnotic influence.

Abnormalities of childbirth receive attention in the Bible. Dystocia was the cause of Rachel's death. Phinehas' wife being shocked by the news of his death and that of her father-in-law's, immediately miscarried, and shortly after, died. Examples of late uniparæ are the cases of Sarah, Manoah's wife, and Mannah, the Shunammite. Sterility, being regarded as a token of divine displeasure, was the source of much anguish to those so affected. The forked root of mandrake was used as a charm possessing the power of overcoming barrenness. Among the Hebrews, the services of two midwives are recorded, and Puah, one of them, is credited as being the discoverer of artificial respiration. After delivery the mother was considered unclean for seven days. The vernix caseosa was removed by the application of salt, which also had the additional virtue of hardening the skin. Nursing was allowed for two or three years, but if at any time, it was interrupted for a period of four successive days, the resumption of the breast was discountenanced. A relative usually took care of the child during the weaning period.

Diseases of infancy and childhood were common and the mortality was high, but no specific data are recorded. In the realm

of therapeutics we meet a large and curious collection of remedies.

Among external applications, we find bathing and washing, the use of saliva as a lotion, inunctions of oils, ointments and bandages; saturating a part with wine and oil. Hezekiah's plaster of figs was highly recommended by Isaiah; the employment of heat was a popular practice among those suffering from senility.

Claudius Hermippus lived to the age of 115, as a result of inspiring the breath of young girls.

Among medicinal remedies, mandrake, already mentioned as a remedy for sterility, and balm of Gilead were largely used. Mint and anise were used as carminatives. Myrrh, lign-aloes, onycha, stacte, frankincense and spikenard were used as flavoring substances; salt as a preservative. Native carbonate of soda was employed for the purpose of removing the fatty substance from the skin. The caper-berry (*capparis spinosa*) was universally used as an aphrodisiac. To relieve pain narcotics were resorted to. Many remedies were of a dietary character. Meal, milk, vinegar, wine, water, almonds, figs, raisins, pomegranate, honey and butter composed the major portion of the materia medica of the Israelites.

Less agreeable remedies such as the heart, liver and gall of Tobiah's fish are cited. In later times, the Talmud increased the list with radishes, mustard, ginger, dog's dung, wormwood, calamus, cinnamon, laudanum, galbanum, storax, and such poisonous drugs as hemlock and aconite. Medicines were compounded by the physician and his apprentice, the act usually being accompanied by an invocation. Papyrus Ebers notes the following as a specimen prayer: "May Isis heal me, as she also healed Horus from all pain which his brother's act hath inflicted

on him when he slew his father Osiris. Oh, Isis! great wonder worker, heal me and set me free from all fatal diseases and uncleanness of every kind which befall me." Not only did supplications play an important rôle as potent remedies, but also charms of every conceivable style and character.

Neck chains in the form of serpents prevented such diseases as were supposed to have been caused by envy and the evil eye.

The Mosaic Code abounded with sanitary regulations. Its enactments permitted the use of herbivorous and ruminant animals as food, as well as the use of all true fishes. The code prohibited the eating of birds of prey. Laws were also provided for the slaughter and inspection of animals against possible taint and infectious diseases.

Early breakfasts were recommended, altho it was inadvisable to partake of food unless hungry. People were advised to eat slowly and abstain from talking during meals. Fat meats, wheat bread and old wines were recommended as the most wholesome foods, but hot soups and salt were regarded as indispensable. The rabbis counselled, "after solid food, eat salt, after all beverages, drink water."

The fruit of trees in the first three years of their growth was forbidden, that of the fourth year was regarded as "devoted" and assigned to the priests, while the fruit from the fifth season was permitted to be generally used. Farmers could not sow different kinds of seeds in the same field at the same time. Grafting of different fruit trees and the planting of any crops in a vineyard were also forbidden.

Cross-breeding and even the yoking of different species of cattle were ruled against. Man and beast were enforced to

rest on the Sabbath, religious holidays, and national festivals.

Garments made of mixed materials were discouraged, because they could not be cleaned as thoroly as garments made of one kind of cloth.

Excreta and blood were covered with earth to avoid the attention of flies and other disease carriers. Manure heaps, factories associated with offensive odors and unclean work, slaughter houses, and cemeteries were not allowed within the city limits. Wells and cisterns were covered at night to guard against poison and against accidents.

The roofs of houses were lined with railings to prevent persons from falling.

Infectious diseases of any acute nature were isolated, and it was considered unwise to live in the house of a physician, as the liability of exposure was greater. Persons touching corpses, dead limbs, or patients with infectious diseases, or their clothing, became unclean thereby, and were compelled to take a bath and wash their garments before mingling with other members of the household, or of the community.

Considering the scarcity of water in those lands at the time, this was indeed a remarkable regulation to be found in the Hygienic Code.

In anticipating the arrival of guests, their rooms were fumigated, and the visitors themselves sprinkled with rose water. Perfumes were universally used, acting as agreeable antiseptics as well as deodorants.

Baths preceded every religious ceremony and no one was even allowed to break bread without first washing the face, hands and feet.

The ponds, streams and rain cisterns provided the water for bathing and washing.

Bath rooms had no place even in the palaces of kings. The benefits of natural warm baths were appreciated, but public baths were unheard of until the birth of Greek civilization.

Laws were promulgated for the burial of the dead, and cremation was employed to protect the corpse against the insults of an enemy, and also during the progress of epidemics.

Conscious of the number and extent of the "dark continents" in the realms of science, that still await the beacon light of discovery and survey, we cannot but admire the skill and intellect of the first peoples of the earth, and especially their perception of the importance of Hygiene.

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THE EAR IN ACUTE EXANTHEMATA.¹

BY

S. E. BARNETT, M. D.,
Detroit, Mich.

The subject of the ear in acute exanthemata is both important and timely. It is at this season of the year that we have a large increase in the acute infectious diseases with its concomitant increase in diseases of the organ of hearing. However, this problem is not one of the transient or seasonal importance, but one that confronts us every day of the year.

Some Primary Facts.—In dealing with the subject of the ear in the acute exanthemata I wish to call attention to some primary facts.

(1) The acute exanthemata manifest themselves with an inflammatory reaction in the upper respiratory tract. The nose and throat which have numerous cavities and crevices, sinuses and tonsils, participate in this reaction.

(2) These structures, histologically and anatomically, are directly connected with the structure of the middle ear and mastoid.

Anatomy.—To facilitate a more thoro understanding of this relationship, I will touch on a few main points of the anatomy of the ear relative to this subject. The Eustachian tubes are small canals leading from the outer wall of the nasopharynx to the tympanic cavity. They are one and a half inches in length at birth, having a horizontal course, and at puberty assuming the direction downward, inward, and forward. It is partly cartilage and partly osseous. It is lined with mucous membrane that is continuous in front with that of the nasopharynx and behind with that of the tympanum. The diameter is largest at the pharyngeal orifice; the membrane is of the ciliated type and has many mucous glands. The tympanum or middle ear is at the upper end of the Eustachian tube and is a small, irregular cavity lined with the same mucous membrane and filled with air. It communicates with the mastoid cells and the mastoid antrum thru a small opening. Its outer wall is formed mainly by the tympanic membrane or ear drum. A section of the mastoid bone will show that the antrum is situated at the upper and front part of the section and must be differentiated from the mastoid cells that are developed at pu-

¹ Read at a recent meeting of the Maimonides Medical Society.

berty. The antrum is almost as large at birth as in adult life. One more point about the anatomy—and that is, the upper mastoid cells and the antrum are lined with a prolongation of the mucous membrane of the tympanum; so it can be clearly seen that histologically and anatomically there exists a direct connection between the mastoid, the cavity of the middle ear, with that of the nasopharynx.

Pathology.—I have said the acute exanthemata manifest themselves with an acute inflammatory reaction of the upper respiratory tract, and then by continuation, often to the organ of hearing. Holt, in describing the onset of scarlet fever, says: "In a majority of cases there is vomiting, a rise in temperature, and *soreness of throat*; in most severe cases there is a uniform erythematous blush covering the *pharynx*, *tonsils* and *fauces*—occasionally membranous patches may be seen upon the *tonsils* the first day, but not generally before the fourth."

In writing of the onset of diphtheria, Holt says: "It is characterized by the formation of a false membrane upon certain mucous membranes, especially the *tonsils*, *pharynx*, *larynx*, or *nose*."

Of measles, Holt writes: "The invasion period of measles is three to four days with symptoms of acute coryza." Of the lesions, he writes: "There is a catarrhal inflammation affecting the *conjunctiva*, *nose*, *pharynx*, *trachea*. In severe cases the lesions may be membranous." Duprey says: "The profuse rhinorrhea that ushers in and accompanies measles is due to a pansinusitis."

Onset and Number.—The percentage of ear affections and complications and their time of onset is a point of interest and importance. Tice states that 10 to 15 per cent. of all scarlet fever results in ear trouble,

the onset taking place from the fourth day to the third week.

Ballenger quoted Arthur B. Dual who observed a series of 6,000 cases of scarlet fever, diphtheria, and measles in relation to the ear, at the Willard Parker Hospital. Dual found acute otitis media in 20 per cent. of his cases of scarlet fever occurring usually from the second to the third week. Otitis media acute occurred in 10 per cent. of his series of diphtheria, the onset taking place during the acute symptoms. Five per cent. of the cases of measles resulted in ear complications. This also occurs during the acute stage with measles still present. He further states that a combination of the two affections makes it more dangerous and formidable. Mastoiditis was then being a frequent sequela.

In Duprey's series 10 per cent. of his cases of measles showed middle ear abscesses and two adults required mastoid operations. Wm. C. Bane, quoting Lewis, says "that otitis media occurs in 10 per cent. of all cases of *diphtheria* and these cases have a marked tendency to *become chronic*."

The records of Herman Kiefer Hospital, Detroit, for the year of 1919, are of special local interest. There are 1,664 cases of diphtheria; of these, 36 cases had ear involvement—32 resulting in suppuration, which is a percentage of 2.3 in this series. There were 1,158 cases of scarlet fever with 81 cases of suppurating ears, or 6.99 per cent. There were 227 cases of measles and of these, 21 cases developed ear disease, or a percentage of 9.2.

These records are highly significant. They should not be dismissed as mere statistics. They should stand as a reminder and warning of the important relationship of the ear in these diseases.

Variety of Cases.—While otitis media is the most common ear trouble we find complicating the acute exanthemata, it is by no means the only one. Frequently, thru scratching with infected fingers, or as a result of a direct extension thru a perforation in the tympanic membrane, we see an involvement of the external auditory canal. In diphtheria this may take on the form of a diphtheria of the external canal. In measles and scarlet fever the involvement manifests itself in a more or less severe dermatitis or eczema.

The internal ear may also be involved, usually thru toxins in the blood attacking the auditory nerve, similar to attacks of the optic or laryngeal nerves in these cases. Also, there may be a hyperemia of the labyrinth, with its accompanying symptoms.

Diagnosis.—Probably the most important point in the consideration of the ear in its relationship to the acute exanthemata is the question of *diagnosis*. Because of the comparative infrequency of internal and external ear involvement, I will deal here only with affections of the middle ear. That the diagnosis is not as simple as at first thought, seems apparent or probable. I have seen these cases from the earliest stage and as yet have failed to see a perfect-looking drum membrane. They were "off-color." This does not necessarily mean that they were all coming down with acute otitis media, but it does mean that all cases show an inflammatory reaction of the membrane lining the middle ear in the very beginning of these diseases. Whether this inflammation will continue to resolution or end in empyema is not easy to decide at first. This important finding leads me to point out and lay special and emphatic stress that every case of acute exanthematous disease should have a daily routine ear exam-

ination by a competent otologist. It is only in this way that many of the unpleasant ear complications can be discovered at their very beginning and aborted thru myringotomy or other appropriate treatment. This necessity of ear examinations is most important, for we cannot always rely on symptoms. Many of these cases lead to suppuration without any special clinical symptomatology. When symptoms are present, the most reliable that point to the ear and aid us in our diagnosis are pain and temperature. Early pain in the ear is almost always pathognomonic of ear disease. A high temperature at the beginning or even in the later stages of the exanthemata should be regarded as a guide-post pointing in the direction of the middle ear. Other symptoms, like impaired hearing and subjective noises, are less reliable and may occur in simple congestion of the Eustachian tubes.

Treatment.—I wish to say a few words in regard to the treatment of these cases, chiefly from the standpoint of prophylaxis. It is not necessary to repeat that early incision and drainage are necessary when we see a bulging, red, inflamed and boggy membrane. But it is important to point out what to do, that may prevent the drum from getting to that stage where surgical interference is the only means remaining. We should teach our patients on such matters as the proper blowing of the nose. In all these cases the nose is filled with germ-laden secretions, determining factors in the causation of middle ear infections. We should instruct them to blow one side of the nose at one time and without too much force.

We should preach against the condemnable but almost universal use of syringe irrigations of the nose. This is not only

unsatisfactory, but dangerous. Gentle spraying with the head well forward is not only less dangerous, but practicable. Of the medications most advised is adrenal-in solution or a mild menthol spray. I also use local applications of the colloidal silver preparations with good results. The throat should have daily irrigations of mild antiseptic solutions. I use one-fourth of one per cent. of formalin; permanganate of potash, peroxide and the various mouth washes containing boric acid are also useful. Di-chloramine—T has also received some popularity. The necessity of removing pathological tonsils and adenoids before the onset of these diseases and at the earliest possible time after convalescence, is too obvious for detailed discussion.

There is a certain percentage of cases, however, that in spite of the prophylactic measures instituted, will culminate in acute middle ear disease. When the inflammatory reaction is of the catarrhal type, that is, when we have a beginning acute catarrhal otitis media, there is one remedy that is specific in these cases because of its physiochemical action. I refer to the use of two to five per cent. solution of phenol in glycerine. This remedy has a combined hydropscopic, analgesic and antiseptic action that gives immediate relief, and will abort the inflammation. It is important to call to your attention that this treatment, while of so much value in the catarrhal otitis media, is of little or no use in the purulent cases. The false sense of security of some that this remedy is a "cure all," is to be condemned.

The prognosis of these cases is, as a rule, favorable; of the 90 deaths in 1,153 cases of scarlet fever, only one was due to otitis media (Louis I. Dublin). The cases in which there is a mixture of two infec-

tions, as a scarlet-diphtheria, or a measles-diphtheria, the prognosis is more serious and the type of complication more severe. The diphtheritic cases have a tendency to chronicity and are more difficult to cure.

Conclusions.

In conclusion, may I again call your attention to:

- (1) That etiologically there is an inflammatory involvement of the ear in the acute exanthemata.
- (2) The direct anatomical relationship is of importance in these diseases.
- (3) The importance of the early recognition and routine examination for ear involvements.
- (4) The proper care of the nose and throat as a prophylaxis.

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Circulation in Infectious Diseases.—

The indications for the use of atropine, Nelson (*Southern Med. Jour.*, Dec., 1920) states, are fairly definite. It should be used in that group of cases where the circulatory disturbances, such as fluctuating blood pressure, alternate flushing and pallor, or other symptoms indicate vagotonia. The results in this group of cases from the use of atropine in large enough doses, such as $\frac{1}{50}$ grain hypodermically, every four hours, are quite as graphic as a speedy response to properly used digitalis. Strychnine has no place in the management of circulatory disturbances, except to the extent that it acts as a general muscular tonic. In all cases where rapid heart action is a conspicuous feature, the ice bag over the precordium is indicated.

AZOOSPERMIA; ETIOLOGY, DIAGNOSIS AND TREATMENT.¹

BY

ABR. L. WOLBARST, M. D.,
New York City.

Nature has implanted in the breast of every living creature an instinctive desire for reproduction of itself. Man is no exception to this universal rule. Individuals may vary in their possession and manifestation of this instinct, it may be and often is repressed for social reasons, but there are exceedingly few instances in which it is altogether absent.

In this instinctive wish to perpetuate the species and reproduce the individual, is found the truth of the aphorism that men are mortal, but man is immortal. This immortality of the body, as a thing apart from immortality of the spirit, is attained thru spermatogenesis. The ultimate responsibility in securing for man the attribute of physical immortality therefore falls upon the delicate shoulders of those marvelous, but little understood, organisms known as spermatozoa.

Every man takes it for granted and unconsciously takes pride in the belief that he is fertile and able to procreate, and thus perpetuate himself for the benefit and to the glory of posterity. It therefore comes as a distinct shock to the pride of most men when they are informed that their seminal fluid is devoid of spermatozoa and that they are unable to comply with nature's mandate for reproduction and procreation. Still more important, however, is the effect of this knowledge on the young wife, in whom the desire for maternity is the predominating impulse in her existence. The study of azoospermia obviously brings with

it a realization of the unsatisfied desires and hopes and ambitions of young women and men, to whom nothing else is worth while unless they can have a child.

It goes without saying, that much of the mental anguish on the part of childless women and men could be avoided if the contracting parties, especially the men, were examined before marriage as regards their fitness and capacity for reproduction. But this seems to be out of the question in the present social state, and it is only after the marriage has been consummated and investigation instituted, as to the cause of the childlessness, that it is discovered that the man is suffering from azoospermia.

The factors which bring about this condition and the remedial measures at our command, form the subject of this paper. We distinguish two types of azoospermia—the idiopathic and the acquired. By the idiopathic type we refer to those cases in which spermatozoa are totally absent from the seminal fluid without any appreciable cause being found to account for it.

Undoubtedly there are some men in whom spermatogenesis is absent; that is, there is no elaboration of spermatozoa in the testes. This condition is found associated with cryptorchidism, feminism, and in cases in which the testes are properly situated in the scrotum, but for some unknown reason remain small and embryonal. However, all observers are not agreed in the opinion that cryptorchidism and azoospermia always coexist; there is good reason to believe that in a small proportion of cases of undescended testes spermatozoa may be found, tho it is more than probable that when they are present they will be reduced in number and deficient in vitality.

In cases of sexual abnormality tending to feminism, azoospermia usually obtains; but

¹Read before the Harlem Medical Society, January 5, 1921.

in view of the frequent coexistence of impotence, it is not always possible to say whether spermatozoa are present or absent.

In any given case of suspected idiopathic azoospermia, it is important to determine differentially whether the absence of spermatozoa is due to an obstruction somewhere in the genital tract, or to an actual absence of spermatogenesis. It has been suggested that aspiration of the testes with a fine hypodermic syringe and needle, and microscopic examination of the aspirate, might reveal the presence of spermatozoa in doubtful cases, but this method is not dependable for accurate information.

It is my practice in such cases to expose the vas deferens near its junction with the epididymis on one side—both sides if necessary—and inject a few c. c. of a colored fluid like argyrol upward thru the ejaculatory ducts and into the bladder. If this fluid is recovered thru a catheter inserted into the bladder, there is evidently no obstruction above the point of the incision. If there is any obstruction to the passage of spermatozoa from the testes, it must necessarily exist below the site of the incision. Therefore, a fine hypodermic needle attached to a syringe, inserted with the point directed toward the epididymis, and employed like an aspirating syringe, will often provide the desired information. I have often been enabled to satisfy myself of the presence of spermatozoa in the tubules of the epididymis or the lower end of the vas deferens, in this manner. On the other hand, in cases of obstruction high up in the vas or in the ejaculatory ducts, spermatozoa have been obtained in large numbers and varying degrees of vitality by aspiration in the manner just described. With this information in our possession, we can proceed by the use of

suitable measures to remove the obstruction to the passage of the spermatozoa.

Certain men generally offer a reasonably certain diagnosis of idiopathic azoospermia by their mere appearance and sex history. Such men give a history of sexual indifference or absolute frigidity, or they may present distinct physical tendencies to feminism. The external organs generally are imperfectly developed, the prostate is small or apparently absent entirely. It is safe to conclude that nature for some unknown reason has deprived them of the normal sexual endowment, including the function of spermatogenesis. If a specimen of seminal fluid can be obtained, this conclusion usually will be confirmed by the utter absence of spermatozoa.

In a particular case under observation, the patient is a lawyer in active and successful practice, 30 years of age, and married two years to a vigorous young woman with a normal plus sexual endowment. He has never felt the slightest attraction towards women. On rare occasions, probably once in three or four months, he is able to copulate after much effort. The act is repugnant to him. It gives him a severe headache and nauseates him. He has no emission, but after he falls asleep he has a copious pollution. This fluid has been collected in a condom for examination, and it shows a complete absence of spermatozoa. The external genital organs apparently are normal. The verumontanum and deep urethra appear to be normal.

This man evidently lacks the usual normal sexual endowment; he is constitutionally deficient in this respect, but there is no evidence of feminism anywhere about him. Were it not for the unhappiness of his wife, for whom he has a profound

respect and admiration, he could go on for the rest of his life content and happy with his impotence, his aspermia and his azoospermia. Evidently nature defaulted in his allotment of endocrines and the result is a vigorous young woman with a superabundance of the cosmic urge united in marriage to this splendid but sexually deficient man. One is tempted to conclude if ever a match was made in heaven, this was it.¹

Acquired azoospermia, which is the far more common type, may be classified according to the etiology as obstructive and non-obstructive.

We include among the latter those cases in which spermatogenesis is destroyed or interfered with thru pathologic involvement of the secreting portions of the testes or thru constitutional cachexia. Tuberculosis, syphilis and malignant tumors of the testes are the most common factors in the destruction of spermatogenesis. It is obvious that the destruction may be partial or complete, being directly proportional to the amount and extent of the secreting tissue involved in the pathologic process. In well-advanced cases involving both testes, azoospermia inevitably results.

Among the infectious diseases, mumps and typhoid fever are the most frequent causes of azoospermia. Koplik believes that the testes are not affected in mumps as frequently as the text-books say, but when both testes are seriously involved the chances are that azoospermia will result.

Sexual exhaustion due to too frequent

seminal emissions may and often does result in azoospermia. Whether due to excessive coitus or masturbation, the effect is the same. Given an individual with a constitutionally diminished potentiality for spermatogenesis it is evident that excessive sexual stimulation with its constant drain on the elaboration of spermatozoa in the testes, must inevitably result in an exhaustion of the secreting function. The spermatogenic function, in such cases, gradually diminishes in potency, the seminal fluid becomes attenuated, the number and vitality of the spermatozoa diminish, and azoospermia is the consequence. This condition may be temporary or permanent, depending on the cessation or continuation of the practice.

General debility, cachexia and serious illness producing a malnutrition of the testes, often bring about a temporary or permanent azoospermia. The same effect is seen also in the case of young athletes who have been living an active outdoor life, and who suddenly have taken up a sedentary occupation. Chronic alcoholism, excessive obesity and the inordinate use of tobacco are likewise said to destroy spermatogenesis. Continued exposure to the Roentgen ray and radium emanations destroys the spermatogenic function, but the spermatozoa reappear if the exposure has not continued too long.

It is said by some that long continued sexual abstinence may result in azoospermia, but it is doubtful whether sufficient clinical data are available to determine the correctness of this contention.

In the obstructive type of azoospermia, the spermatozoa are elaborated in the testes, but their progress is obstructed somewhere in the genital tract. The obstruction usually consists of an occlusion of the fine channels thru which the spermatozoa must pass.

¹Since this article was written, the patient has shown a decided improvement in his condition. He has acquired libidinous sensations, and has rather frequent erections—which he rarely had previously. The treatment consists of local applications to the verumontanum, massage of the prostate, and the internal administration of pluriglandular endocrines, principally posterior pituitary.

Most commonly the obstruction is in the epididymis, as the result of a gonococcal inflammation which closes the lumen of the fine tubules leading from the testes to the vas deferens. Double epididymitis, however, does not necessarily prevent the passage of spermatozoa out of the testes. I have encountered several patients with this history, in whom the seminal fluid contains large numbers of live and active spermatozoa. Nevertheless, the usual sequel to double epididymitis is azoospermia.

In cases of localized tuberculosis and syphilis, involving the epididymis, a similar obstruction takes place, and if both sides are involved, azoospermia results.

Any portion of the genital tract may be occluded. The vas alone may be involved, either by an infiltration and closure of the channel resulting from a gonococcal or tuberculous inflammation, or by some unknown cause by the deposit of a soft cheesy material which I have found in a number of instances. Microscopically this material consists of mucus, broken down epithelia, fat globules and occasionally a few dead and deformed spermatozoa which apparently had reached the site of the obstruction and died there. At times this cheesy deposit is so firmly packed in the lumen of the vas that it is impossible to insert a filiform or a fine piano wire for any appreciable distance. Any attempt to force fluid thru the lumen also meets with failure. The etiology of this type of obstruction is unknown.

When the epididymis and lower end of the vas are patent, the obstruction usually will be found in the ejaculatory ducts. The diagnosis is confirmed by the findings with the cystourethroscope, which reveals the orifices of the ducts inflamed, swollen and often choked up with foreign material.

The urethra may be the seat of the

obstruction when its canal is narrowed by the presence of a stricture of fine caliber. In the posterior urethra such a stricture forces the ejaculated semen backward into the bladder. It is the function of the verumontanum to prevent the backward flow of seminal fluid by forcing it forward at the moment of ejaculation; but when the stricture is very pronounced, its resistance overcomes the forward pressure exerted by the verumontanum with the result that the fluid flows backward into the bladder. If this process is long continued, the verumontanum loses its erectile power, and the retrograde ejaculation becomes permanent even tho the original obstruction may have been removed.

Similar results follow the practice of making pressure on the perineum at the moment of ejaculation for the purpose of preventing conception. If this practice is long continued, permanent retrograde ejaculation and azoospermia inevitably result. When the stricture is situated in the anterior urethra, normal ejaculation does not take place because the semen is retained within the urethral canal until after the orgasm, following which the fluid slowly dribbles out of the urethra. In these cases while the patient is sterile insofar as the possibility of impregnation is concerned, the seminal fluid may be perfectly normal in all respects.

In a series of 54 private cases of azoospermia classified according to etiology, it was found that azoospermia was caused by bilateral gonorrheal epididymitis in 29 cases, bilateral tuberculous epididymitis in 7 cases, cryptorchidism in 3 cases, embryonal testes in 2 cases, colliculitis with closure of the ejaculatory ducts in 3 cases, occlusion of the vas deferens on both sides in 4 cases, tight urethral stricture in 1 case, undiscovered

cause, probably idiopathic, in 3 cases.

These data show beyond any reasonable doubt that the vast majority of cases of azoospermia are the result of an obstruction somewhere in the genital tract, most commonly in the epididymis and vas deferens.

The technical steps that are necessary in order that the cause of the azoospermia may be determined in any given case, call for considerable patience, attention to details and a comprehensive understanding of the genital function. The sexual history of the patient is of the utmost importance. One must take nothing for granted.

The first step in determining the etiology after the history has been taken, is to examine the epididymi for thickening and induration, especially when there is a history of single or double epididymitis, mumps or trauma. If this examination is negative in result, the cystourethroscope is called into requisition to determine the condition of the posterior urethra and verumontanum. Marked chronic inflammation is strongly suggestive, almost diagnostic, of a pathologic condition of the ejaculatory ducts, with probable closure of their lumen. Exposure of the vas deferens under local anesthesia is the next step in order to determine its patency. If fluid can be injected thru the vas and ejaculatory ducts and recovered in the bladder, the cause of the azoospermia must be found elsewhere.

If all these measures have revealed nothing definite, we are forced to believe we are dealing with a non-obstructive or idiopathic type of azoospermia, and our investigations must be directed along these lines. The sex history, the gross physical appearance of the body especially as regards a tendency to feminism, and a study of the endocrine system of the patient, must

be gone into minutely. Not infrequently in spite of our best efforts, the etiology cannot be determined. We have under observation at the present time, three men, without venereal history, in whom every conceivable test has been made to discover the cause of the azoospermia, all without success. These men are strong, vigorous and in the prime of life, normal sexually, but without a single organism in the seminal fluid, dead or alive. Five or six examinations of the semen have been made in each case, with uniformly negative result. Endocrine therapy has not yet given any material evidence of a change in the situation.

Theoretically, the treatment of azoospermia is extremely simple. In practice, it is quite the reverse. It is easy to say that obstructions to the passage of the spermatozoa should be removed, but these obstructions have an obstinacy about them that is unusually persistent. Occlusion of the lumen of the epididymis cannot be removed by any means known to us; but the Martin operation offers some hope of success. By this operation, the patent vas is severed near its junction with the epididymis and anastomosed to some point in the testis or epididymis in which live spermatozoa have been located at the time of operation. If this anastomosis by some good fortune remains open, the operation has been successful and live spermatozoa may eventually be found in the seminal fluid. But unfortunately this occurs very seldom—probably in not more than three to five per cent. of cases. Nevertheless, I believe the patient is entitled to the benefit of the procedure, however slight the chance of success may be. I have had two successful results in over 40 cases operated upon.

If the obstruction is in the vas or in the ejaculatory ducts, the chances of success

are much greater. In a certain proportion of cases, the injection of a little fluid thru the vas and ejaculatory ducts has the effect of removing the offending material or secretion by carrying it along the moving current and depositing it in the bladder. In a few of my personal cases azoospermia has been relieved in this way, but the percentage of successful results is but slightly better than in the case of the Martin operation.

The cystourethroscope is essential in the treatment of local conditions in the deep urethra and the verumontanum, and in catheterizing the orifices of the ejaculatory ducts in the hope of opening up a passage for the spermatozoa. Deep-seated strictures in the urethra are treated by gradual dilatation if possible; otherwise by external urethrotomy followed by maintained dilatation.

In the non-obstructive type of case, the object of treatment is to improve the general condition of the patient in the hope of encouraging a return of the function of spermatogenesis. The employment of the endocrine substances, especially the anterior lobe of the pituitary, has been productive of encouraging results in a fairly large proportion of cases. The sexual function must be regulated: this usually means a radical diminution in the frequency of sexual gratification. Moderation almost to the point of abstinence is a most useful therapeutic measure in certain of these cases—in most of them, in fact.

792 Lexington Avenue.

Pneumococcus Vaccine.—Pneumococcus vaccine is contraindicated in acute infections, so states Cecil (*J. A. M. A.*, Jan. 15, 1921) and in chronic pulmonary tuberculosis and nephritis. It should not be administered in large doses to patients with chronic cardiac disease, or to invalids, or to pregnant women after the fifth month.

THE THERAPEUTIC VALUE OF EYE GLASSES

BY

A. BRAV, M. D.,

Ophthalmologist to the Jewish Hospital,
Philadelphia, Pa.

The therapeutic value of glasses is both curative and preventive. The ophthalmologist in prescribing glasses for constant wear has usually some definite object in mind which he wishes to accomplish. Glasses are prescribed for the purpose of correcting errors of refraction or muscular deficiencies, for their local or general therapeutic effect which may best be stated in the following classified ways:

- (1) To remove local and general symptoms.
- (2) To prevent increase in the refractive error and some ocular diseases.
- (3) To prevent injuries in industrial establishments.
- (4) To increase the visual acuity, both for near and distance.
- (5) To correct latent diplopia resulting from faulty fixation.
- (6) To cure convergent strabismus.
- (7) To protect the eyes from some injurious rays of light.

Local ocular conditions, such as redness of the eyeball and marginals of the lids, itching sensations and twitching of the eyelid, sensations of burning and sensations of various sour, bitter and onion-like smarting in the eye, are often relieved at once by the properly prescribed lense. These symptoms of local irritation resulting from eye-strain are cured by the application of the therapeutic value of glasses. But glasses are more often prescribed for their general effect to cure reflex symptoms that are attributable to some faulty condition of the visual apparatus. Thus, headache, dizziness, vertigo, nausea, anorexia and vomiting, general nervous irritability, often yield

very quickly to this very simple physical therapeutic agent after many medicinal agents have failed to give any relief. The constitutional effect of properly prescribed glasses is of great importance and help to the medical man. Their curative effect in many cases is marvelous and little short of the miraculous, and should be used extensively in everyday practice.

But glasses are prescribed not only as a curative agent, but also as a preventive measure. It is known to every ophthalmologist that myopic eyes have a tendency to stretch and their myopic error increases in proportion to the amount of strain the eyes are subjected to. Glasses in these cases of myopia are given not only for the purpose of correcting the error and to increase the visual range, but also with the distinct idea in mind that it will prevent an increase in the myopia. Various minor ailments of the eye and not rarely even more serious conditions of the eye which are caused by uncorrected errors of refraction may be prevented from developing by wearing glasses properly prescribed for constant use. In industrial establishments where minor ocular trauma is frequent it has been found an important element in the prevention of ocular accidents. In those establishments where more serious ocular injuries occur, such as foreign bodies penetrating the eyeball, as in iron foundries and steel industries, glasses have a decided preventive usefulness. Unfortunately, many workmen are careless and do not wear the glasses for preventive purposes, and consequently ocular injuries of a serious nature, and even perforating injuries, are still common occurrences in these industrial establishments. Autoists have learned by experience the prophylactic value of glasses or goggles and are worn by practically everyone who travels in

automobiles. They are a protection against the wind and against particles to which the automobilist is exposed. Of course, there are various types of prophylactic glasses for various workers, but we are concerned in this paper with the principle of their usefulness only in a general way.

Glasses were primarily used to correct visual disturbances due to faulty mechanism of the visual apparatus. Refractive errors of the ocular media, where the rays of light entering the pupil do not converge to meet at the proper point of the sentient sheath of the retina, are correctible by means of properly prescribed glasses. Thus, the visual acuity of the myope can be increased by means of diverging lenses, while the hyperopic visual insufficiency can be increased by the use of converging lenses. Astigmatic causes for the reduction in the normal visual function can be remedied by means of cylinder lenses. The compound errors of refraction are corrected by means of sphero-cylinder lenses. The visual deficiencies caused by age, known as presbyopia, are corrected by adding to or deducting from the prescribed lenses that correct the error of refraction for distance. This may be done either by prescribing two pairs of lenses, one for distance and one for near, or the two may be prescribed in one pair in the form of bifocal lenses. In complicated cases it is better to prescribe two pairs of glasses, one for distance and an extra pair for the near point. Correcting errors of refraction is an art that requires care and time in order to give the best result. Where the errors of refraction are associated with muscular disturbances, an addition of a properly measured prism can be incorporated with the glass that corrects the refractive error so that the same glasses will correct both the refractive error as well

as the muscular deviation. Eyes that are normal for distant vision require, after the age of 45, glasses for near work. On the other hand, people with some degree of myopia may not require glasses for near work when the presbyopic age has been reached. Glasses are one of the best or the best non-medicinal agent that we have at our disposal.

Latent diplopia or manifest diplopia of a non-paralytic nature can be corrected by properly prescribed prism lenses. Diplopia is the result of some disturbance in the mechanism of fixation. Very rarely is the double image accountable by too high an error of refraction. In the majority of cases there is a deficiency in one of the external ocular muscles. This muscular deficiency may be the result of the error of refraction and may disappear when the error has been corrected. On the other hand, the muscular deficiency may be super-added to the error of refraction, in which case we must correct both conditions by adding a prism glass to the corrected refractive error. The therapeutic value of the prism depends upon the fact that it helps the deficient muscle by diverting the rays from the base of the prism. So that deficiencies in the adductor muscles are corrected by placing the base of the prism toward the inner side, while deficiencies in the abductors are corrected by placing the prism base to the temporal side. Vertical deviations can also be corrected on the same principles by placing the base of the prism up or down. Diplopias of a very high degree cannot be corrected by prism glasses, as high degree of prisms cannot be worn, on account of the chromatic aberration they produce. A prism of four degrees in each eye is all that can be tolerated with comfort. Where the muscular deficiency is much

higher and the images cannot be fused by a prism of eight or ten degrees, surgical means must be resorted to. But even in paralytic cases where the diplopia is caused by paralysis of one of the external ocular muscles glasses may be given for temporary relief. Here prismatic glasses are of no value, but a ground glass may be prescribed with the idea of excluding the paralytic eye from the act of fixation and thus prevent the formation of double images.

The non-operative treatment of strabismus depends entirely upon the therapeutic value of properly prescribed glasses. The treatment, however, in order to be efficacious must begin early, as soon as the muscular deviation has been observed. Fully-developed cases of strabismus in adults do not yield to this treatment and surgical interference is necessary. The best result is obtained in children and especially in the convergent type of strabismus. All cases of strabismus in children seen early and the therapeutic measure of properly-applied glasses will get well and will not require any surgical interference. The improvement in these cases is very rapid and is permanent, provided, however, that the glasses are worn. Of course, the treatment must begin before the strabismic eye has been excluded from the act of vision. Even the well-developed strabismic cases of the convergent type will give excellent result, but it will require a considerable time before a cure is obtained. Even these cases will ultimately get along without operation. The divergent cases do not readily yield to this form of treatment, except in the very early stages when binocular vision is still present. In the fully-developed cases glasses will have no effect upon the strabismic condition. In convergent strabismus, however, the proper treatment is

the correction of any error of refraction and the prismatic adjustment of the muscular deviation. No operation should be performed upon any child for convergent strabismus without first having recourse to this simple and efficacious treatment. All cases of convergent strabismus in adults are the result of neglect on the part of the parents to properly take care of the condition when it first developed during childhood. With our present attention to the needs of our children, one may predict that in the future one will rarely see a man with a convergent strabismus.

Another important therapeutic value of glasses consists in the fact that certain glasses can exclude injurious rays which irritate the eye. We have all heard and seen a great many people who suffer as soon as they go out in a sunny light. The actinic rays of the sun seem to irritate some eyes, hyperesthesia of the retina. In the summer resorts we see people wearing colored glasses of various tints, green, blue and amber, with the same object in view. In daily practice, however, this is not practical. There are, however, lightly shaded glasses which have the same effect. Among these, the most prescribed in the past were the so-called amethyst lenses which in many cases have proven very beneficial. From the cosmetic point of view they are, however, somewhat objectionable. At present, I am in the habit of prescribing the so-called Crookes' lense, shade *a*, which in appearance does not differ from the ordinary lense, but at the same time does exclude injurious rays from entering the eye and irritating the retina. In all cases of retinal hyperesthesia where strong natural or artificial rays cannot be tolerated I give a Crookes' lense and the result has been gratifying. The more severe cases require a shade *b*

Crookes', which is of course rather dark. The therapeutic value of glasses for the cure of local, as well as general, conditions is recognized by every ophthalmic surgeon and the medical profession at large. Unfortunately the public is still not properly informed on the subject. Parents are still opposed to glassing their children and even adults are very reluctant to the idea of wearing glasses. Education in this direction will do a great deal in curing some of the ills that human flesh is heir to.

Unfortunately we meet in daily practice refractive conditions of the eye which give rise to symptoms of eyestrain and yet they are of such a nature that we cannot correct them. This is especially true of those group refractive cases that we group under the term anisometropia. Unequal refractive conditions of the eye of a low or medium grade can be remedied with glasses, but where the anisometropia is of a high character it is practically impossible to equalize the two eyes so that they can work together. It is well known to every ophthalmologist that after a unilateral cataract operation—the other eye still being in good condition—the patient cannot use the prescribed lenses with the correction of the eye that has been operated upon. Such glasses invariably give rise to double vision. After operation the cataractous eye requires a very high plus lense with a considerable cylinder and altho the vision in the cataractous eye with the corrected lense is 20/20, or normal, the patient cannot wear the glasses and we are compelled to let the patient use the other eye exclusively. The same conditions we meet in cases where the difference in the refractive condition of the two eyes is very great. The corrected lenses usually give rise to double vision, caused by differences in the size in the

retinal images, dizziness, vertigo, vomiting, distortion of objects, delusion of space, of depth, and distance, and consequently the patient cannot wear them and is better off without them. It is especially difficult in those patients that are very far-sighted in one eye and very near-sighted in the other eye, so that they use one eye for distant vision and the other eye for near vision. It is impossible to correct both eyes and we must compromise by correcting one eye, usually the one that gives the best vision with the least amount of strain.

917 Spruce Street.

TWENTY YEARS' PERSONAL EXPERIENCE WITH GLYCOSURIA.

BY

CAROLUS M. COBB, M. D.,

Lynn, Mass.

During the winter of 1899 I was rejected as a first-class risk by an insurance company. The rejection was due to glycosuria. The loss of insurance protection was not so disturbing as the possible limitation of usefulness that the presence of the disease implied. When one is confronted with any disease condition there is only one safe course to follow and that is to first find out the exact condition with which one has to deal. After this is determined the next step is to lay out a plan of treatment and a method of life that will give the maximum degree of efficiency to the individual without increasing the disease. I consulted Dr. R. H. Fitz, of Boston, who told me that he found 1 per cent. of sugar and that he considered my case one of glycosuria of a gouty patient. He advised diet, the eating of green food, and plenty of exercise. He very kindly offered to watch

the progress of the case, but I am ashamed to record that I never saw him again.

For the last twenty years I have managed my own case. It has been said that the man who is his own lawyer has a fool for a client, and the same is true of the patient who is his own doctor. In regard to disease, my experience only shows that no matter what our training may have been we are all tarred with the same brush. It seems to be an inborn trait of the human being to doctor himself, and he generally thinks he knows more about how the case should be managed than the doctor he employs. My father was a physician, and I had three brothers practicing medicine, yet I did the same old trick and treated myself. I thought I knew a good deal about the disease when I began, when, as a matter of fact, I knew practically nothing. I have learned many things since, but I am not so positive about my knowledge as I was at the beginning. It is in the hope that my experience may be interesting to others that I am writing this article.

Personal description and medical history: Age 38, 6 feet 2 inches in height, weight 250 pounds, had weighed 265 two years before; the usual children's disease, typhoid fever at 8; for ten or twelve years had suffered from severe attacks of lumbago, and severe catarrhal colds with sinus involvement. Mother was a diabetic for many years, died at 77. For last six years practice limited to eye and ear work. Summed up, the case is one of moderate glycosuria in an obese subject 38 years old, who had an inherited predisposition.

Diet.—It is safe to assume that everyone considers limiting his diet a matter of necessity and not one of choice. No one ever limits either the amount or variety of his food until he is compelled to do

so, and sometimes not then. Doctor Fitz advised the prohibition of sugar, the limitation of starch, the eating of greens, and plenty of exercise. The advice of Doctor Fitz was good, but it did not go far enough in one very important particular and that is that overeating, especially between meals, and lunches at night are about as bad as eating starch and sugar. I soon learned that when I was particularly hungry it was a warning to eat less and to go on a nearly starvation diet. If I did this the excessive hunger would disappear in a few days. I also learned that fat indigestion would cause more uncomfortable symptoms than the eating of starch. My first experience with fat indigestion came from eating roast pork. At first I believed the symptoms were due to eating cold storage pork, but I soon found that even fresh native pork would cause discomfort. There seems to be a difference between fresh native pork and the cold storage variety. I can still eat a moderate amount of the former, but I cannot eat the latter.

A moderate amount of vegetables seems necessary and beneficial. The so-called greens, such as cabbage, lettuce, dandelions, spinach, romaine, celery, chicory, etc., are always beneficial. Of the fruits, apples apparently are safer than most other varieties. I have always eaten apples and have not suffered in consequence. There were two reasons which may have influenced me: *First*, I was very fond of them; *second*, my mother had always eaten them and she had lived to be 77 with a quite marked diabetes.

When we were on our automobile camping trips our menu was nearly always the same; for *breakfast*, oat meal, bacon and eggs, and coffee with evaporated milk; *lunch*, whatever kind of fresh meat we

could buy in the stores that we could fry or broil, potatoes, bread, fruit or berries without sugar; *dinner*, was much the same, of course, tho we changed the meat so that we did not have the same kind for two meals in succession. Sometimes we were able to buy fresh milk and then we would often have only milk, bread and berries. This diet agreed with me and as long as we kept to it I had no trouble, but one day on Cape Cod we found some particularly good sweet corn, and we had lamb chops, sweet corn and rolls with a liberal supply of butter for dinner, and I felt sick for three days afterwards. If anyone should say that I was a fool to eat such a dinner I wouldn't argue with him—I ate it and I paid the price. This experience only shows that no matter how much one may know about his diet, once in a while he will break over and pay the penalty. It is not worth it, for the succeeding bad feelings more than counterbalance the pleasure of eating the food.

Personal Hygiene.—I early came to the conclusion that hygiene was an important part of keeping well and doubly so when you were handicapped by disease and I, therefore, laid out a program to follow; this has been changed from time to time until at present it is fairly well fixed. Artemas Ward said that when he got married he tried some experiments in managing his wife, and “them as didn't work I abandoned,” and this is just what I did. Doctor Fitz advised me to take exercise and Doctor Heinrich Stern cautioned me not to get overtired or thoroly chilled. When I suffered from attacks of lumbago I took Turkish baths, which I found to be the only effectual form of treatment for that distressing complaint, but after I began to diet I was free from lumbago so I

stopped taking the Turkish baths. They might have continued to do good, but I was too lazy to take the trouble. In the place of the Turkish bath I have taken a shower bath every morning and this with seven or eight hours' sleep every night are the only parts of the original program I have continued to follow.

In regard to exercise I have tried all the different forms and fads, and I have reached the conclusion that of all the inane, insipid performances set exercises in which one is not interested lead them all. If one has not originality enough to do something that is interesting to him, then there is nothing for him to do but to follow rules someone else lays down. I went thru them all from so many motions in one direction, then in another, to voluntary contractions of the different groups of muscles, dumb bells, Indian clubs, punching bag, resistance from pulleys and elastic ropes, etc., *ad nauseam*. I finally decided that I would do something interesting; at first I had a camp in the woods—there is always work to do around a camp. This worked very well for a time until some one cheated me out of the camp. I then acquired an automobile and this with a camera has furnished me exercise enough for the last ten years. For the last few years I have been auto-camping. This furnishes what is, to me, an ideal method of relaxation and exercise. During the last summer we took trips of 2,000 miles and we are making plans to cross the continent in this way.

In regard to fatigue, there are evidently two distinct varieties—simple physical fatigue and mental fatigue combined with physical fatigue. This latter form often requires days to overcome, while pure physical fatigue is quickly recovered from. A diabetic does not recover from either form

as quickly as a normal individual, but the difference remains the same. I have been so tired from doing perfectly familiar operations that it took me days to recover. An illustration of simple fatigue came about in this way: I wanted some snow pictures and, of course, to get them one has to go where the snow is, so I started into the woods. It was hard walking and after I was well into the woods I discovered that it was more or less of a job to get out again. I decided to go thru and come out on another road, but before I got out I was so tired that I could not go more than a hundred feet without resting; in spite of this thoro exhaustion the next day I was as well as ever. One of my boyhood friends, now a United States Senator, told me that when he found he had diabetes that he went into the woods with his men and tried to do all the work he could. At first he could only work for a half hour or so, but he stuck to it until he could do as much as the other men. The moral is to do the work you like, but do something especially if it takes you out of doors.

Getting Overchilled.—This seems to me of importance and of all the hygienic advice I have received from time to time I think this to be of the most benefit. I wear wool next to the skin all the year and I feel that I am better for it.

My rules for hygiene are these: A shower bath in the morning, seven or eight hours' sleep on a good bed, freedom from worry, some sort of exercise that I like, especially in the open air, and riding a hobby which takes me out of doors. It has been said that the difference between riding a horse and riding a hobby is that one can get off the horse.

Medicine.—Diabetes cannot be cured by medicine or by anything else, for the reason

that the disease is an inherited or acquired low tolerance for sugar and starch. All that can be done is to keep within the limit of tolerance and, of course, it goes without saying the limit of each individual is peculiar to himself. Careful diet and attention to the general health will undoubtedly raise the limit and, on the other hand, neglect of either will lower it. I have never seen medicines have any influence over the disease and I have tried most of them. I do not mean by this that the alkalies do not help when acidosis develops, but the alkalies are not a cure for diabetes. In regard to the physical condition there is much that can be done. *First*, constipation must be controlled and this is not always an easy matter. I have found cascara, or phenolphthalein with an occasional dose of some saline, to answer the purpose. For general tonics nuxvomica given for a limited time seems to raise the whole tone of the bodily functions and, personally, I have found that tr. ferri chlor. improves the general health.

One important point to be looked after is any source of pus which may reach the stomach. Pus in other parts of the body is of the utmost importance and must be attended to, but what I am particularly alluding to are repeated colds and the resulting catarrhs with the swallowing of secretions, and the secretions from pyorrhea. Curiously enough, I found when I began to have these complications that there was no cure for them, at least, none that would work. I had treated patients for head colds and believed that I was helping them, but I found when it was important to cure myself that my remedies were not effectual. My experience with pyorrhea was much the same. These were the two hardest problems I had to solve, and as often happens the solution was more or less of an

accident. One thing I have not as yet been able to do, and that is to devise some way to remove tartar from my teeth. My dentist friend, Doctor Legro, tells me I will never be able to do it, that he considers himself some expert in removing tartar, but that he is not much of a success with his own teeth. To be able to control the colds and the pus from the teeth have been of the greatest benefit to the digestion and consequently to the general health.

I am not offering my experience as a guide to any one, for I realize that there is no disease which requires so much study of the individual case as does diabetes. My conclusions are: That each individual case must have a special diet; that out of doors fatigue free from mental worry is healthful; and that the general health must be carefully looked after. I can only add that after more than twenty years of glycosuria I am still in active practice and that during the last summer I drove an automobile a thousand miles a week for several weeks and helped to pitch and strike a tent and get three meals a day.

PRACTICAL HYGIENE OF INFANTS AND CHILDREN.¹

BY

BY JACOB ROSENTHAL, M. D.,
Detroit, Mich.

From the title of this paper one could say it is a subject more appropriate for a mothers' meeting than for a meeting of physicians, but the fact that so little attention is given to this important phase of treatment for children, and that the mothers look to us as advisers in all matters of child welfare, has led me to take this sub-

¹ Read at a recent meeting of the Maimonides Medical Society.

ject up with you, not so much to tell you anything new, but rather to bring back to your attention some of the more important matters along this line.

Care at Birth.—The infant should be made to cry lustily to fully expand his lungs. One danger we often forget and that is mucus or fluid in the mouth and throat. Many cases of atelectasis and pneumonia can be traced to this cause, and it may take place without our realizing it, as it once happened to me. Therefore, I again caution you to use every precaution possible to prevent it. The cord is then tied and cut, and the child wrapped in a warm blanket and placed out of the way until the mother is looked after.

Later the eyes are protected by prophylactic measures, the child well greased and bathed, the water being about 100 degrees; the cord dried and dressed with dry sterile gauze, the nurse instructed to keep it dry and sterile. Dusting powders are not necessary. At this time the attending obstetrician should carefully examine the infant for any malformations.

The baby must be kept in a darkened warm room, in a crib by himself, and above all must be kept warm. I have repeatedly seen babies who do not gain nor do well in other ways, that can be traced to subnormal temperature, and when it was brought up to where it should be, 99 to 100 degrees, by rectum, all our troubles would be over. The temperature should be taken twice daily, especially till the navel is healed.

Weighing should be done weekly, and after the first initial loss there should be a gain of from three to four ounces a week up to the sixth month; after this the average will be about eight ounces a month. If an infant does not average a gain of

one pound a month something is wrong with its food or surroundings, and it should be investigated.

Babies must be bathed daily, the time regulated by the time of feeding and airing. Morning is best, but it may be given in the evening; at any rate, the child's face should be washed in the morning. Babies should not be bathed after a feeding, nor too soon before going out in the air. Until the navel is healed sponge baths should be given, after that the tub bath. Temperature for the first month 95 to 100 degrees, gradually reduced to 90 at the end of the first year. The nurse should be instructed to cleanse the nostrils and ears gently with a pledget of cotton wrapped on the end of a toothpick, the cotton extending well over the end; especially should this be done with the nostrils, as interference with the free passage of air is frequently the cause of loss of vitality.

I absolutely forbid the nurse or mother to wipe out an infant's mouth until after the sixth month. The mucous membrane is so delicate that the least friction may cause an abrasion and leave an opening for infection. Many cases of stomatitis can be traced to this practice. Later the child's mouth may be cleansed with a soft cloth, using no force, and when the teeth appear, gentle cleansing with a soft brush may be allowed. As soon as the child is old enough to learn, the habit of cleansing the teeth should be taught him.

The skin should be kept as dry as possible. Many cases of excoriation at the folds or on the buttocks can be prevented by this practice alone. Dusting powders may be used, but often too much dependence is placed in them to the neglect of dryness. How often have you seen damp and lumpy powder caked in the folds, and

not infrequently the diapers will be full of it. This could all be prevented and the child made much more comfortable if the skin were well dried first. Diapers must be changed often, as soon as they are wet or soiled. If the skin is kept clean and dry few cases of excoriation would come to our attention.

As for clothing, the whole can be summed up in these few words: The infant should be dressed warm enough in cold weather to keep him warm, and little enough in hot weather to keep him cool. I well remember a case that I was called to see a few years ago. It was an extremely hot evening in May, the perspiration was running off me and all my clothes were sticking to me like a long lost brother, but the baby had clothes enough on to protect it against freezing weather. The child had a temperature and its skin was covered with a heat rash. Is there any wonder that the child was fretful? I explained this all to the mother and the next day the child was normal. Seasons have nothing to do with it. Temperature, everything. Of course children must be protected against sudden changes, but the general rule I have mentioned will cover all cases. The material for infants' clothes should be wool or a mixture of wool and silk, the weight depending on the season and the climate. The diapers should be of birdseye linen. The abdominal band is not necessary after the second or third month.

My practice in the feeding of infants is to have them placed at the breast within six hours of birth, and every six hours after this until the milk comes, which is usually the third or fourth day. Then I order them placed to the breast every four hours from 6 A. M. to 10 P. M., allowing a sixth feeding at 2 A. M. if necessary,

but this is usually stopped by the end of the sixth week. At first there may be a little difficulty with the mother's breasts becoming engorged, but it is easily overcome by pumping them dry after each nursing, and at the end of a week at the most there is no more trouble. This practice gives both mother and child more rest, the child better digestion, less colic, and the gain in weight is normal.

Sleep is specially important to children. The only time infants should be awakened is for feeding. They soon form the habit of waking at their regular times, and it is not unusual for them to sleep the whole night thru, from six to six, after the third month. They should be kept in a warm, well-ventilated room. Normal infants will sleep from 20 to 23 hours out of the 24. At the end of the first year they should take a morning and afternoon nap of one or two hours. The morning nap they will stop of their own accord at the end of the second year, but the afternoon nap should be kept up till six years, and even later they should be made to lie down even if they do not sleep.

Fresh air is as necessary as sleep. The infant must have it from birth. The room must be well ventilated. This does not mean cold. When two weeks old in the summer, or from four to six weeks in the winter, the baby must be acclimated, as it were, to the out of doors. In the summer no preparation is necessary, but in the winter a good practice is to wrap the baby up as if he were to go out, and open the windows wide for an hour or so. This may be done for several days, and then take the baby out. It may also be practiced in stormy weather. The baby should have his airing daily, either in or out of the house, depending on the weather. The best

time is between 10 A. M. and 3 P. M. He should be well protected against wind, cold and dust. As the child gets older he should be out longer, and in pleasant weather he may be out all day.

Exercise is as important as fresh air and sleep. The crying of a new-born baby is exercise, and should be encouraged. Later he may be allowed to lie naked on a bed or mattress, and kick and roll to his heart's content. When the child begins to walk care must be exercised that he does not overdo it and exhaust too weak muscles.

We must always remember that the nervous system of the infant and child is relatively undeveloped and that the brain grows more rapidly during the first two years than during the rest of the child's life. It therefore requires, at this time especially, rest and quiet, and is extremely sensitive to any abuse. This may be reflex or due to overmental excitation. The child should be thoroly examined for anything that may affect him reflexly, such as phimosis, adherent prepuce or clitoris, adenoids or tonsils, eye strain or digestive troubles.

Mental overstimulation is still more common and may be carried to an injurious extent at any age. The baby may be over-excited by too much handling and too much play. The mother loves to show him off; her friends, when calling, must see him and each must try and make him coo or smile—this they think is cute. Then the mother wonders why the baby is restless, cross and does not sleep, or why the stomach is upset, or again, why the child jumps at the least sound. These are all symptoms of an overexcited nervous system. Older children may also be overstimulated. Too much play just before bed time, too ex-

citing games, and a practice that we see going on around us every day, and one that some day will produce a crop of all sorts of nervous, irritable and weakly children, with many and various organic and psychic complaints, is the one of allowing children of all ages to attend the moving pictures, both day and night. I have attended some in the evening and seen plays, especially the serials, which were too horrible for me to enjoy; what must have been the fascinating and terrifying effect on these young and immature minds? Could these children go home and get a restful sleep? Could it do anything else but leave a lasting impression on the minds of these children that some day will show in some obscure nervous or mental phenomena, that you and I will have to try and cure? We, as physicians and family advisers, are the ones to put a stop to it.

Another source of overstimulation is the proud mother who encourages the bright child, urges him on to learn more and faster—rather would she help this child by holding back, preventing the display of his wonderful ability before her friends. Too much association with adults is bad for a child. For this reason private teachers or governesses are wrong. More good can come to any child by going to public kindergarten or school than any private lessons he can get. The association with children of his own age will keep his mental stimulation within bounds, and proper physical development obtained in play will make for health and normality. We must never lose sight of the fact that children are little animals, not little men and women.

Habits and Discipline.—The child may be trained to control his rectum and bladder at an early age. It is well to begin at the end of the first year. The mother may

watch the time he has his stool daily, and let him sit on a suitable vessel. It is surprising how soon he learns to make himself understood when he wants to use it. The bladder may take a little longer, but the use of diapers may often be dispensed with in the third year. This is a habit to encourage. Some of those to discourage are habit-crying, sucking nipples and fingers, and wanting to be constantly held. These should be stopped in their incipency and unless they are they often lead to more vicious ones, and always to a spoiled child.

Lastly, I wish to take up the prevention of the spread of contagious diseases. The infant is protected from exposure to diphtheria, scarlet fever, smallpox and a few of these kindred infections by the regulations of the Board of Health, and the natural fear of the mother, but how about common colds, bronchitis and grippé? These are equally contagious and, while they are not controlled by regulations, every case in a household should be isolated from the other children, especially infants whose resistance is practically nil. Also, how about our cases of measles, chickenpox, whooping cough, etc.? Mothers still seem to think the sooner the children get them the sooner they will be over them, as they have to have them anyway.

Then comes the school period. Many children with care get to this period in excellent health, having escaped all contagion, and then their trouble begins. Why should this be so? I consider this a problem that the Health Board should give special attention to, and it seems to me that in a city of this size, with a board as well organized as ours, that they should overcome this fact. Were this a small town I could perhaps excuse it, but even there,

it seems to me, much could be done to prevent it. You have seen and I have seen children with scabs of chickenpox on the street, in stores, going to school, also children who are recovering from measles still coughing and their noses running, and some who have not entirely stopped desquamating from scarlet fever, and some still coughing with pertussis; brothers and sisters of children at home sick with these diseases, and I might go on indefinitely citing cases of this kind. Many a child has been permanently injured, or even his life lost, thru, might I say, criminal negligence of practicing physicians whose duty it is to warn mothers and of our paid bodies whose duty it is to prevent just such things.



The Treatment of Disease in the Light of Endocrine Data.—Blumengarten in his remarkably complete and valuable discussion of the "Endocrines" in *Internal Medicine* very properly states that we can accomplish a great deal with organic therapy if we study our suitable cases along endocrine lines. For instance, we know that definite glandular disturbances, such as hyperthyroidism, dyspituitarism and various gonadal disturbances are accompanied by various clinical manifestations, both subjective and objective, of disturbed function of the nervous system, of the vascular system, of metabolism, of immune reactions, of sugar tolerance, of susceptibility to various illnesses. Furthermore, these disturbances give definite objective clinical evidence and certain definite laboratory reactions. Besides, the hereditary characteristics, both in regard to susceptibility to disease, anatomical characteristics, etc., are fairly definite. Consequently, if we find the same clinical evidence, both subjective and objective, in any disease that we find ordinarily in the

definite endocrine disturbances, or in the forme fruste types, we have a right to assume that the endocrine system plays an important rôle in this disease. And then we must attempt to determine if the endocrine disturbance is the cause of the symptoms. This can frequently be done, and we may then treat the condition along endocrine lines with great benefit. For example, it is well known that hyperthyroidism is characterized by tachycardia, exophthalmos, twitchings, diarrhea, increased basal metabolism, pupillary disturbances and other symptoms. The presence of all of these symptoms or of several of them in varying combinations in a patient suffering from another disease would seem to indicate that the disturbed thyroid plays an important rôle in this disease and may even be the cause of it. On the other hand, myxedema is characterized by the occurrence of fat pads, drowsiness, sluggish mentality and lowered basal metabolism; Addison's disease by asthenia, low blood pressure, Sergeant's white line, etc.; pituitary disturbances by the syndrome of acromegaly or by Froehlich's syndrome. Consequently, when the symptoms and signs characteristic of these diseases occur in a patient apparently suffering from something else, we have a right to believe that the disturbance of these glands play an important rôle, or may even be the cause of the patient's condition.

The Influence of the Roentgen Ray on the Endocrine Glands.—Ascoli and Fagioli (*Riforma Medica*, July 10, 1920), have been treating certain sluggish endocrine glands with small doses of Roentgen rays, hoping to stimulate the glands to normal functioning. Radiotherapy as usually applied is to destroy and annul functioning, but their aim was to promote deficient functioning. A boy of 15 with dystrophia adiposogenitalis was given pituitary and testicle extract treatment for several months, and then the pituitary gland was given four Roentgen-ray exposures at four week intervals. The results were most gratifying, as also in a case of scleroderma in which both pituitary and thyroid were rayed, and in a case of exophthalmic goiter given two exposures of the thymus. In the latter case the pulse dropped from 120 to 100, the circumference of the neck from 34

to 31.1 cm. and the patient felt much better generally. Tentative treatment of various endocrine organs in a case of angioneurotic edema, in three of diabetes and in an eunuchoid man of 26 failed to display any benefit. Probably some other organ than the one treated was responsible for the disturbances. In five cases of asthma, however, exposures of the pituitary were followed by pronounced improvement. In four of the cases there have been no, or very slight, attacks since; in the fifth case instead of a daily severe attack there are only two or three a week at most, and they are mild. About four exposures were made at weekly intervals. The cross-fire was thru the brow and temples to a total exposure of twelve minutes with a 2 mm. aluminum filter, 3.5 milliamperes, focal distance about 45 cm., and spark of 18-20 cm. In conclusion Ascoli and Fagioli suggest that this mild action of the Roentgen rays may prove useful in research on the normal function of the various endocrine glands, and to enhance the action of those which seem to prevent or check malignant disease. Four German clinicians in the last few months have reported similar radiotherapy of endocrine glands: Stettner, the pituitary, in cases of arrested development of ossification centers; Stephan, the spleen, to promote coagulation; Fränkel, recommending small doses as a functional stimulant for endocrine deficiency, and Klewitz exposed the thorax in asthma, without benefit.

The Diagnosis of Hypopituitarism.—Writing in the *Southern Medical Journal*, August, 1920, Roberts claims that undergrowth, dwarfism, dysgenitalism, feminine hirsuties, feminine type skeleton, lack of secondary sexual characteristics, genital atrophy and impotence, headaches, languor, weakness, may appear in varying degrees in different cases at different periods. The classical signs and symptoms of hypopituitarism are subnormal temperature, dry skin, adiposity, low blood pressure, slow pulse, constipation, amenorrhea, drowsiness, inactivity. Lack of attention, impairment of memory, actual dulness, mild psychoses to actual convulsive seizures with epileptic attacks may occur. The cause may be glandular deficiency of one or both lobes, a pituitary tumor with damage of the gland,

a neighborhood tumor or hydrocephalus with pituitary pressure. The symptoms of intracranial tumor may be more prominent than those of pituitary deficiency. Infantilism, dysgenitalism, obesity, symptoms of intracranial tumor warrant pituitary study.



Shoes.—Shoes in Poland have a different purpose, as well as a different appearance, from ours in America. They are a luxury rather than a necessity, except in the coldest weather. It is one of the unique conventions of the people here that every individual must possess a pair, whether he wears them or not. And generally he does not. During the greater part of the year, in the spring, summer, fall, and occasionally in the dead of winter, with ice everywhere, one sees peasants and poor people walking the roads and spading their strips of land in bare brown feet. But for Sundays and for holidays (and they have many of the latter here) it is only those in extreme poverty who cannot produce a pair of shoes.

They are the essential touch to their bright peasant costumes, or, in these degenerate days when many of their heirlooms have been sold or lost, to the cheap but gaily colored modern clothes that are fast taking the place of their more picturesque old ones. "Eleganski," they call a fine pair of *buty* or *bucika*, and they are all that the term implies, from the wonderful, crushy white boots of a dandy Krakow officer to the wooden sabots of a little goose girl.

The first time I ever saw a religious procession in Poland was on a Holy Friday. As the marchers came toward us, beautiful in their multi-colored chustecki, or head-shawls, and their lovely striped woolen shirts, a sudden sharp shower descended on them. Instantly every woman, young or old, dropped the flowers she was carrying, knelt down, took off her precious shoes, and, tucking them and her flowers under her arm, proceeded serenely on her way in a foot-casing designed by nature against all wear and tear.

At first I thought it part of the ceremony ;

See "The Romance of Nursing Abroad," p. 70.

it was so simply and quickly done, and indeed, since then, I have seen many long, barefoot pilgrimages; but later it became a common experience to see single wayfarers remove their shoes for the passage of a strip of muddy road. Especially on Sunday afternoons, when the stiff formality of church is past, will the old ladies remove the burdensome footwear to relieve their tired members.

The shape of a Polish shoe is different from ours. It has a high heel, but with a sole so wide and a vamp so short that the ankle seems to rise abruptly from the toes in a straight line. Imagine an American nurse's foot, accustomed to the commodious Coward footwear, in such a painful casing!

A worse problem, however, is to get a true Polish foot to fit into our shoes, as I found when I brought a lot of Red Cross shoes down from Warsaw to fit out the personnel of a little native typhus hospital at the town of Putany, on the Vistula. Winter was coming on, there was little fuel to be had, and the laundry girls especially needed warm, dry things. Real leather shoes were a luxury, but the rubbers that the Nursing Bureau had given me to go with each pair were beyond the dreams of avarice.

The grand trying on took place in the old Russian kitchen and it was one of the most delicious experiences of my life, because it was so funny and at the same time so pitiful. It was the Cinderella incident multiplied several times. Frania, Kasia and Wiekia and the good old cook were all there waiting with baited breath for me to open the big box. They were eager, but, as for me, I was extremely anxious. I had brought the biggest shoes the warehouse could furnish, but even these fell short of the size indicated by the newspaper patterns I had carried to Warsaw. So troubled was I at the difficulties I expected to have that I could not conscientiously allow any preliminary hand-kissing for what they were about to receive.

Everybody began trying on at once. The faithful old cook's hands trembled and fluttered so that I had to pull hers on for her. Only after a real and long battle was I able to enclose her nether members in a gigantic pair of 8-E's. Even so, they pinched uncomfortably. Frania found a pair for herself which, with a lot of stretching, finally and reluctantly admitted her feet. Naughty Wiekia had, *mirabile dictu*, little feet and so succeeded better than the others, while

stupid Stasia had to take hers to a master shoemaker to be made over for a hundred marks.

Finally, everybody seemed happily fitted except poor Kasia, a laundry girl whose work required them most of all. She was an orphan, had had smallpox and was very plain in addition. I had especially wanted her to be satisfied, but her feet were too large. It was pathetic to see her go with trembling lip from pair to pair, big and little, hoping for a miracle. None came, and we had to compromise finally on a pair of rubbers, the pliancy of which saved a situation that was beginning to approach tragedy. Later on, however, we found a good pair of men's workshoes for her at the Bialystok warehouse.

Lest this appear to be a base slander on Polish feet, I must add a single episode. A relief worker informs me that during the last distribution of Christmas gifts by the Red Cross among the poor University students of Warsaw, the greatest difficulty was experienced in finding American shoes small enough to fit them! Their experience, however, was with the intelligentsia, while I had to deal with the peasants, and the new democracy of Poland is still too young for this difference to have been removed.

Susan G. Rosenstiel, Warsaw, Poland.

Introducing American Methods.—In a country where the trained nurse, as she is known in America, is practically nonexistent, it is difficult to establish in the mind's eye a picture of the ideals of the nursing profession. When I was asked to give a talk to a group of would-be Polish nurses on the work being done in the States by the nursing profession, I tried to make them see thru my eyes the perfection at which we aim.

My toilette that night, before appearing in the presence of my Polish audience, was carefully studied. I had learned in advance from the chief nurse that one of the common faults and frailties of the women I was to address is their love of cheap jewelry and shabby finery, which they do not fail to put on in all circumstances. I must have been a model of severity and plainness when I appeared at last. Having just arrived in Warsaw, my white uniform was still white and not the dirty yellow it has since become. I made sure that there wasn't a single

wrinkle in my outfit that might be mistaken for a decorative frill.

My personal example was, however, an almost futile sacrifice. For it is almost impossible to expect immaculacy of the Polish nurses. They are fortunate enough if they can boast more than a single change of clothing. Three hundred marks a month is the highest salary paid to any nurse in Poland, and shoes range in price from 1,000 to 1,600 marks a pair. Of course, the clothing situation being what it was, there was no uniformity of dress among them.

However, they were keenly interested in all I said, particularly when I discussed public health work. I told them of the important rôle prophylaxis is playing in the nursing profession today and I expatiated at great length on the topic of fresh air. My experience in Poland had inspired a new and marked enthusiasm for fresh air. From what I said to them, they no doubt got the impression that sealed windows were a capital offense in America, punishable by immediate death, which I suppose, is not deviating very far from the truth. When I casually spoke of tuberculosis being cured by fresh air, sunshine and nourishing food, they were electrified. When I insisted that disease was not hereditary except in predisposition, I set fire to a volley of questions. I told them that they were disciples of hygiene and sanitation and must inspire the people with these principles wherever they go.

After the talk was concluded, they gathered around me to see at close range just how my uniform was made, how my cap was put together and what kind of shoes I wore.

I am sure they received inspiration for a higher standard of nursing. I received an enthusiastic invitation to speak again, in spite of my broken Polish. Unfortunately, I could not accept, as I had received instructions to go to Wilno to the American Red Cross Surgical Hospital.

In Wilno we had to deal with Polish nurses of several years' experience but no training. They expected deference, authority and no supervision. A regular course of teaching was out of the question and teaching by example was the only course open to us. Disciplining them to regular hours, proper surgical technic, giving baths without entirely exposing the patient, making beds properly, etc., were some of the

most delicate tasks our nurses ever attempted, I am sure.

As interpreter, I had many a wrinkle of misunderstanding to straighten out. At the time it was very discouraging work, but we must have accomplished some good, for their commandant came to us recently to ask the Red Cross to send nurses for their new hospital. He said that our methods, as far as they had learned of them, are being used in their new hospital.

Anna C. Raven, Krakow, Poland.

Heatless, Linenless Hospitals.—On first arriving in Warsaw, I was assigned for special duty with one of the American Red Cross doctors who had been out on several relief excursions and had contracted typhus. He was sent to the Polish Infectious Hospital at Praga, a suburb of Warsaw.

Here I had my first close view of a Polish hospital and it was pathetic to see how little nursing care the patients received. The doctors were excellent and had a great deal of experience in infectious work, especially typhus; but the women they called nurses were untrained and knew practically nothing of bedside care of the sick.

The hospital contained about four hundred beds but very little equipment. There was a shortage of everything, the food was poor and there was no linen to speak of. Typhus and typhoid patients were lying on straw mattresses, with no pillows or sheets and only one blanket for covering, tho the weather was bitter cold, with rain and heavy snows. There were Russian stoves thru-out the building, but no fuel. To heat my patient's room and keep it at a bearable temperature, we were obliged to bring a sack of coal and wood from the Red Cross Headquarters every day.

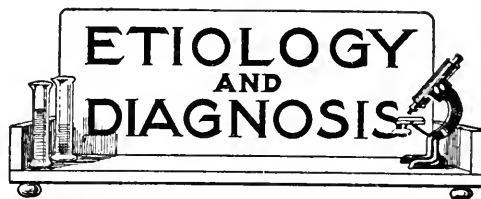
At the end of three weeks, my patient began to recover and I was withdrawn to assist with the organization and equipment of a Red Cross hospital of about 300 beds at Wilno, three hundred and fifty miles north of Warsaw. The work was started the beginning of December, 1919, but, owing to many difficulties in obtaining the necessary materials it was three months later before the building was repaired and in suitable condition to receive patients.

When the Polish offensive began in May, we were used as an evacuation hospital and received wounded every hour of the day.

In the operating room, to which I was assigned, we had interesting work with both American and Polish surgeons, one of the latter an experienced and fine surgeon from Krakow. I was disappointed that at this time we were not able to establish the Carel-Dakin treatment, as it is practically unknown in Polish hospitals. Many patients passed thru the operating room who would have responded and improved under early Dakin treatment.

The difficulties overcome in Polish hospitals, many of which had to resort to the most primitive methods for lack of drugs, instruments and equipment, would be a most valuable object lesson to American medical men. American nurses have taught the Poles a great deal, but they have learned a great deal which will prove invaluable to them when they return home.

Perry Handley, Wilno, Poland.



Etiology of Asthma.—There are two types of asthma, (1) typical bronchial asthma in which there is some foreign protein acting either locally or centrally as an irritant to the smooth muscular tissues of the bronchi, causing a spasm of the bronchial muscles with a typical attack of asthma, which usually lasts only a short time and clears up completely between attacks; and (2) asthmatic bronchitis, which is associated with colds, chronic bronchitis, catarrhal conditions of the nose and throat and, sometimes, with infection of the teeth, tonsils and sinuses. This type is usually bacterial in origin, is more or less constant and has a tendency to get worse.

Shelton (*Virginia Med. Mo.*, Nov., 1920) claims that in some cases both bacteria and foreign proteins are the exciting factors, and in others it is impossible to find just what the cause is. The younger the patient the more likely it is to be caused by food or animal epidermal proteins or by pollen. Four-fifths of the patients that begin asthma in infancy, and two-thirds that begin in childhood are sensitive to protein or pollen; and very few that begin after fifty are so sensitive, these usually being bacterial in origin.

Of over six hundred cases studied by Dr. I. Chandler Walker of Boston, 48% gave a positive skin test to some type of protein and 52% were not sensitive. Sixteen per cent. of the total number were sensitive to animal epidermal

protein, most of them to horse-hair or dandruff, and others to cat-hair, feathers, cattle-hair, dog-hair and wool, horse-hair being by far the most common, and dog-hair, the least common, causes. Twelve per cent. of the total number were sensitive to food protein; most of them to cereal grains, such a wheat, corn and rice; others to egg, fish, milk and potatoes; a few to beef, lamb, pork and fruits. Ten per cent. were sensitive to bacterial proteins, staphylococcus pyogenes aureus being the most frequent and streptococcus hemolyticus being next. Others were staphylococcus pyogenes albus, streptococcus viridans and micrococcus catarrhalis. In 11% of the total number, pollen protein was proven to be the cause of asthma, most of these being timothy, red top, ragweed and goldenrod; others were orchard grass, daisy, willow, birch, maple and pine. Bacteria may cause asthma either by producing a chronic bronchitis locally or by infection of other parts of the body, throwing off bacterial protein and producing irritation centrally.

Contributory causes of asthma are cold air, dampness, changeable weather, strong winds, going from a hot to a cold room, menstruation, indigestion, distention of the gastrointestinal tract, nervousness, tire, excitement, irritating odors and gases, colds and bronchitis.

The Diagnosis of Facial Erysipelas.—The diagnosis of facial erysipelas is usually easy enough, says a writer in *The Medical Council* (October, 1920), but mistakes are not infrequently made by the unwary, who are apt to consider any inflammatory and edematous condition of the face, especially if the swelling leads to closure of the eyelids, as erysipelatous. In this way the common "swelled face" of toothache is taken for erysipelas, a mistake that is easily rectified. Urticaria, again, and some forms of erythema, attacking the face and eyelids, may simulate erysipelas; here the multiplicity of the lesions, their rapid subsidence, and the sudden appearance of fresh ones at distant points soon clear up the case. Herpes zoster, in the course of the first division of the fifth nerve, may be associated with so much redness and swelling as to resemble erysipelas; the fixity of the affection, its strict limitation by the middle line, the characteristic clustering of the flat vesicles, and the dark color of the scabs to which they give rise are sufficiently distinctive characters. An acute attack of eczema of the face leads to such considerable redness and swelling, that the likeness to erysipelas may be often a close one; but here, again, a little observation is all that is required to elucidate the case. Eczema is far more likely to attack both sides from the beginning, its lesions may be multiple, its border is ill-defined, and beyond it may be seen an advanced guard of small red papules scattered irregularly; the surface also is not so tense as in erysipelas. In the great majority of cases erysipelas is accompanied by considerable constitutional disturbance and fever, from which the other affections mentioned are usually free. Urticaria may, however, be febrile, while ery-

sipelas may, now and then, be free from fever. The chief characteristic of erysipelas is its tendency to invade fresh tissues by rapid spreading at the margin; this is certainly not found in any other superficially similar affection, and, if borne in mind, mistakes in diagnosis are avoidable.

Bodily Deformities Due to Calcium Deficiency.—Peckham (*Jour. of the Amer. Med. Ass'n*, Nov. 13, 1920) asserts that knock knee, bow legs, flatfoot, lack of union or delayed union in fractures and even arthritis may be the direct result of calcium deficiency and that sterilized and pasteurized milk plays a great part in the causation of these conditions. When calcium metabolism is interfered with, the mucous membranes may suffer in direct consequence. Here seems to be a line of thought that directly connects an increase of intestinal mucus and consequent dyspeptic conditions with patients who began life as bottle-fed babies. This kind of reasoning at once places calcium deficiency as, at least, a factor in a certain percentage of cases of arthritis; and if this is taken into account, it will afford much aid in the treatment. In any deformity, Nature always tends to make the part grow back to normal if the physiologic machinery is working properly. When orthopedic deformities are brought for treatment, the fundamentals resting on the physiologic processes must be taken into account. The results of such treatment are very evident. If fresh, uncooked milk, orange juice, and in many cases, thyroid extract, are administered, the difference in the result obtainable is often remarkable. Another important thing is the addition of lime water to all milk given. Cow's milk is acid, and in the winter when ensilage is used, the acidity is much greater. All milk should be tested with litmus and sufficient lime water added to render it alkaline. It should not be guessed at. The acidity may nullify any good that might otherwise be derived.



The Treatment of Dyspnea Due to High Blood Pressure.—In his comprehensive and valuable article in *The Practitioner* (Nov., 1920), Powell points out that for anginal symptoms with severe dyspnea, nitrite of amyl inhalations, and morphia and atropine subcutaneously, are the best remedies, the latter of course, to be used with due precautions. Oxygen inhalations are of great value in such cases. It will not infrequently be found that flatulent distension of stomach starts the symptoms, and Powell is accustomed to recommend such patients to keep at hand a phial contain-

ing 5i of aromatic ammonia, 5i of tinct. of cardamoms, M. ii of trinitrine solution, M. xv each of spirits of ether and chloroform, and gr. xv of bicarbonate of soda in 1½ oz. of water, the phial to be marked in three divisions or "sips," one to be taken on threatening of symptoms, the second in 5 minutes, and the rest if necessary, while the doctor is being sent for.

In concluding, Powell wisely says that treatment should be directed not so much to merely lowering the blood pressure as to the amendment of any conditions that it may indicate as at fault. It is rarely, and only in incipient cases, possible materially to reduce a high blood pressure to within "normal" limits, and it is rarely wise to do more than keep it within bounds. Remember, too, that a heightened pressure is compatible with many years of life under reasonable prudent conditions. It is at the present time, perhaps, rather too pessimistically regarded. In life assurance, one would prefer to accept eligible cases on limited term rather than whole life policies.

Treatment of Acute Empyema.—Parry (*Canad. Med. Monthly*, October, 1920) concludes his very practical paper as follows: 1. Acute empyema rarely causes death during the first three weeks of the disease, apart from operation. 2. All operations should be done under local anesthesia. 3. In all cases where there is acute pneumonitis, aspiration should be done as a preliminary measure. 4. Later, rib resection and irrigation with Dakin's solution do not give any immediate mortality, being quite as safe as the closed method. 5. The closed method requires much more careful after-treatment but produces as a rule more rapid convalescence, less permanent damage to the lung and less likelihood of chronic empyema. 6. Two tube drainage is more satisfactory and requires less time than one tube drainage.

Management of Heart in Pneumonia.—One of the most outstanding and striking facts in connection with pneumonia is that fatal cases terminate almost invariably with what appears clinically as a cardiac death. The predominant cardiac lesion in pneumonia is an inflammation or degeneration of the heart muscle. Brooks and Carroll (*Amer. Jour. of Med. Sciences*, Dec. 1, 1920) believe that every case of pneumonia begins with a strain on the right heart, and that this strain is in amount that which justifies the conclusion that the paramount factor in prognosis of all forms of pneumonia lies here, and that on the ability of the right heart to resist the mechanical and toxic effects of the disease, mostly depends the fate of the patient. They believe further that small doses of digitalis at the outset of the infection enable the right heart to realize in the presence of an initial increased pulmonary pressure, a compensatory circulatory adjustment. Thru this compensation at the onset the right heart in most instances is able to maintain an equilibrium. The best effects are obtained when the drug is given early in the disease and

before the heart shows any evidence of incompetency. Brooks and Carroll give tincture of digitalis at the moment that the diagnosis is made or even when it is highly suppositious. The routine use of 5 minims of a good tincture by mouth, three or four times a day, is sound and efficient therapy. When the heart is crippled or subnormal, from 15 to 20 minims, every two or three hours, are given until the rate effect appears, the pulse becomes full, the muscle sound good and the apical thrust vigorous. If, then, the heart appears competent, the dose is reduced to 5 minims, every three hours or, perhaps, entirely discontinued. If signs of inordinate right heart strain appear or incompetency develops the dose is immediately increased. Rest, properly timed venesection, and numerous other adjuvant measures are frequently of great therapeutic utility.

Treatment of Diphtheria Carriers.—Fraser and Duncan (*Lancet*, November 13, 1920) differentiate between a "positive throat" and a "true diphtheria carrier." The latter carries bacteria which retain their virulence despite the most energetic disinfection. Stock diphtheria vaccine cures the positive throat, but up to the present time no thoro cure has been offered for the true carrier. The authors base their work on the theory that in a carrier there is equilibrium between the power of immunity of the individual and the toxin. A detoxicated Klebs-Loeffler vaccine, prepared after the manner of D. Thompson, was used in three cases outlined in the paper. All lethal bacteria disappeared after inoculations of constantly increasing concentrations. It is pointed out that the treatment may be used on convalescents in case of delayed resolution, and the method apparently offers immunity to those exposed to infection.

NEWS NOTES AND ANNOUNCEMENTS

Fiftieth Annual Meeting of the American Public Health Association.—The fiftieth annual meeting of the American Public Health Association will be held at New York City in November, 1921. The date which is tentatively announced is November 14-18.

It is interesting to note that Dr. Stephen Smith, the founder and first president of the Association, is now entering his 99th year. He is still active and vigorous and it is expected to celebrate his approaching centennial together with the semi-centennial of the Association.

The first organization meeting of the Association was held in New York City on April 18, 1872, and that is one of the reasons for selecting New York City for the celebration of

the semi-centennial. Other considerations are the convenience to foreign representatives and to Dr. Smith, who lives in New York City; and especially a plan to conduct demonstrations of public health administrative methods in the laboratories, executive offices, garbage disposal plants, and similar centers of public health interest, in which New York City is unsurpassed.

It is expected to present in connection with the celebration a review of the progress of the various branches of public health within the last fifty years. The sectional programs will include Public Health Administration, Vital Statistics, Laboratory, Food and Drugs, Sociology, Sanitary Engineering, Industrial Hygiene, and Child Hygiene.

Change from Weekly to Semi-Monthly.—On March 2nd the *New York Medical Journal* will be converted into a semi-monthly publication. It will be enlarged, greatly improved and its high character will be maintained.

The Journal in its seventy-eighth year has made great strides, the high quality of its contents is the topic of conversation in medical circles thruout the United States, and today it is recognized by the medical profession as not only one of the most practical, but one of the most influential medical journals in America. The publishers announce that the typographical appearance will be in keeping with the high standing of the Journal, the special issues, in which we group together the latest findings by the men in various specialties, will be enlarged and more pages will be devoted to original communications and other departments.

Youth and Life.—"Youth and Life," the new exhibit of the U. S. Public Health Service, consists of 24 attractively illustrated cards, measuring 28 x 22 inches each. The exhibit, which is especially addressed to young women, is an appeal for physical fitness as the best aid to fulfilling the duties and enjoying the pleasures of life. The value of hygienic living and the need for plenty of exercise, fresh air, sleep and proper food are emphasized. The function of the glands of the body, including the sex glands, are shown. Human reproduction is approached thru a brief presentation of reproduction in plants and animals; and attention is called to the probable effects of sex misconduct (venereal diseases). Womanliness, motherhood and home-making are extolled. This exhibit may be borrowed for special work from State boards of health or be purchased thru the American Social Hygiene Association, New York City.

Western Electro-Therapeutic Association.—The third annual meeting of this association will be held at the Little Theatre, Kansas City, Mo., under the presidency of Dr. B. B. Grover of Colorado Springs, Col., April 21-22. The annual dinner will be given at the City Club on Thursday evening, and a number of distin-

guished speakers will be present, including: Surgeon-General Hugh S. Cumming, Dr. A. J. Pacini, Chief of the X-Ray Department U. S. Public Health Service; Dr. H. Bowing, Mayo Clinic; Dr. A. F. Tyler, Omaha, Neb.; Dr. Wm. Benham Snow, New York City; Dr. Frederick Morse, Boston, Mass.; Dr. Curran Pope, Louisville, Ky.; Dr. T. Howard Plank, Chicago, and others.

A three days session of the Western School of Electro-Therapy will precede the above meeting, beginning April 18th.

Clinics and demonstrations will be held every afternoon. An excellent commercial exhibit, comprising all the leading manufacturers of apparatus is being arranged, and will prove of great interest to visitors.

For information or program address the Secretary, Dr. Charles Wood Fassett, 115 East 31st St., Kansas City, Mo.

National Tuberculosis Association.—The seventeenth annual meeting of this association will be held in New York, June 13th to 17th, with headquarters at the Waldorf-Astoria. Mr. Homer Folks is chairman of committee of arrangements.

The Rhinelander Solarium.—Plans have been prepared for the new Rhinelander Solarium, which is to be erected in the neighborhood of Avenue A and Sixty-eighth Street. Several sites are under consideration and a decision will be made at the next meeting of the board of directors. The plans call for an eight story building to contain about 60 private rooms and 104 semi-private rooms and wards. Among the members of the board of directors are Dr. Samuel W. Bandler, Dr. Louis B. Jameson, Dr. Simon Strauss, Dr. Louis F. Bishop, Dr. Harlow Brooks, Dr. Israel Feinberg, Dr. Harold A. Foster, Dr. Samuel Lloyd. Health Commissioner Copeland, in a letter to the board of directors of the Rhinelander Solarium, said there were only about 565 beds in private sanatoriums on Manhattan Island, and that there was a constant demand for at least 2,000.

Libraries in Public Health Service Hospitals.—The fact that the sundry civil appropriation bill, reported to the House of Representatives, appropriates \$100,000 for the purchase of library books, magazines, and papers for beneficiaries of war risk insurance will be welcome news to military patients in Public Health Service hospitals. The American Library Association, which still administers the libraries in the larger hospitals, is embarrassed financially and has to be assisted by other organizations. The Public Health Service had no appropriation which it could use for the purpose. The new appropriation saves the situation; but, unless it is made available immediately instead of not until July 1, as is customary, reading matter will necessarily be at a premium in all hospitals caring for soldier patients.

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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

Epidemic Encephalitis.—The presence of epidemic encephalitis in the United States has been studied by H. L. Smith, of the United States Public Health Service, *Public Health Reports*, February 11, 1921, and his summary indicates the paucity of our knowledge concerning its origin and means of dissemination. It is unfortunate that a disease which thus far presents a fatality rate varying between 22 per cent. and 60 per cent., with an average of 29 per cent., should be clouded with such great vagueness as to its origin, relation to other diseases, and the indefiniteness of its method of spread.

While epidemic encephalitis appears to be separate and distinct from poliomyelitis, and apparently is always preceded by an epidemic of influenza, its relation to the latter disease remains undetermined. The fact remains, however, that a history of influenza is more frequent in the group of persons having had epidemic encephalitis than in the general population.

There is a certain degree of reassurance in the knowledge that among persons exposed in the immediate families of patients reported in the United States, no secondary attack of the disease occurred so far as investigation has revealed. This would indicate a low degree of infectivity, or the necessity of some peculiar personal susceptibility to the invasion of the cerebral tissues. If it is possible to believe that

tuberculosis of maturity is incidental to infections during childhood, it is not impossible to believe that epidemic encephalitis, coming on as it does after an epidemic of influenza, may be due to some latent infection breaking out at a later period under conditions of altered vitality.

This would be no more remarkable than the delayed appearance of paresis or locomotor ataxia following a primary syphilitic infection. There is strong reason to suspect that the epidemic encephalitis may have a close relation to the pre-existent influenza in a somewhat similar nature. This, however, is purely conjectural, and would require considerable investigation to determine its possible verity. There is a certain degree of comfort, however, in the evidence thus far adduced, indicating the practical lack of direct communicability.

Special Classes to Improve Nutrition.

—The national interest which is centering about problems of nutrition has given rise to a large variety of agencies whose aim is to promote, effectively, the physical welfare of childhood. The developments of the so-called milk station indicated what could be accomplished for infants. School lunches have manifested their value and their place in communal life. Between these two agencies, however, there fall the

large groups of children whose nutrition has been inadequately supervised between the ages of two and six years. For this reason, special stress is now being placed upon the nutrition of children of the pre-school age.

A variety of organizations and methods of operation have been developed, dependent upon whether the work of child nutrition is undertaken in connection with a hospital, a general medical clinic, a school, a settlement house, a church or a health center. A recent Report of the Nutritional Activities for Children in New York County prepared by the Health Service, New York County Chapter, American Red Cross, in cooperation with the Child Health Organization of America, presents an excellent résumé of the different types of nutrition classes which have already been established under the various agencies above mentioned. This report merits study by those interested in the problem, because of the separate and special measures that must be adopted under the varying types of agencies undertaking the work. Most noticeable, however, is the fact that in all types of nutrition classes there is a union of medical and educational direction.

It is unfortunate, perhaps, that the term "nutrition class" has been adopted so widely, as to many minds nutrition is practically synonymous with dietary regulation. In practice, however, adequate stress is devoted to the physical aspects of nutrition, and in consequence every effort is made to remove all handicaps and defects prejudicial to the growth and development of children. The removal of hypertrophied and diseased tonsils advances the general nutrition of children, as does the removal of decayed and diseased dental structures; and an improvement in nutrition may ac-

company these procedures oftentimes without any alteration of the diet. It must not be forgotten that malnutrition is not by and of itself a disease entity, but merely constitutes a symptom whose exact determination has not been definitely outlined.

All rules and regulations dependent upon the interrelation of height, weight and age present numerous exceptions. An overweight child may be suffering from malnutrition, if one recognizes that malnutrition is not essentially the same as undernourishment. The presence of diseases such as diabetes, nephritis, or tuberculosis, may produce conditions accompanied by underweight, but wherein the management of the diet can only be determined by the knowledge of the existence of the underlying disease process. There are many types of children whose weight is below the accepted averages for their age and height, but who manifest no other evidence of malnutrition and who, despite reinforcement of the diet by increased calories and vitamins, fail to increase in weight so as to approximate the theoretic standards. It is doubtful, therefore, whether such children should be classified as suffering from malnutrition, merely because of underweight.

There is considerable danger that by laying too much stress upon the word "nutrition," there will be inadequate consideration of the real medical problems that are involved in altering the structure of childhood in order to accomplish definite results in so far as weight and height are concerned. Fundamentally, nutrition classes should be under the observation and direction of a physician, under whose guidance and direction a dietitian may function. It is a mistaken idea that practical dietitians, assisted by enthusiastic lay volunteers, are

fully capable of managing health classes having as their main idea the improvement of nutrition. It becomes necessary, therefore, for physicians to take an active interest in the promotion of these special agencies looking toward the improvement of the health of children. If the medical profession refuses to participate actively in the development of this social enterprise, communities will per force be obliged to take advantage of the services offered, and depend upon the cooperation they may receive from non-medical sources.

It is unfortunate, perhaps, that nutrition classes are being urged as the last word in the management of all conditions of children apparently suffering from impaired vitality, as indicated by underweight. Overnourishment and undernourishment are both to be regarded as signs of malnutrition, but only when they are considered in relation to the general physical state of the child under observation. It is because of this important fact that the physician becomes an imperative necessity in the organization of the so-called nutrition classes, which in a larger sense are merely special classes for raising the standards of health and welfare of childhood.

A Department of Public Welfare.—

The plan of President Harding to establish a new department of Public Welfare, with representation in the Cabinet, is of interest to the medical profession. The contemplated reorganization may involve the transfer or combination of the Children's Bureau of the Department of Labor, and the Bureau of Education of the Department of Interior, the War Risk Insurance Bureau and Public Health Service, now under the

Treasury Department, together with the Federal Board for Vocational Education and other governmental agencies dealing with problems of education, relief and health.

The first step towards this end has involved the appointment of Dr. Charles E. Sawyer, of Marion, Ohio, personal physician of President Harding, to the rank of Brigadier-General in the Army Medical Reserve Corps. It is purposed to give him authority to make an investigation of the subject, and to present such suggestions as his observations may warrant, with a view to establishing a concrete plan of coordination of these various activities that will permit efficient and economic operation.

It is indubitable that education, "social justice," and health possess many points in common, and that, in furthering each of them, all are benefited. For a long period of time there has been a division of functions that has been unwarranted and an added consequent overlapping of investigation and expenditure that might well be eliminated. If it is possible to establish a single department, whether it be called the Department of Public Welfare or not, larger benefits will arise from harmonizing these numerous activities now distributed to various departments of the Federal service. The most significant alteration of status would be the transfer of the Public Health Service from the Treasury Department, where it was originally placed because of its original functions in the protection of the health of the Marine Service.

It is too early to pass judgment upon the possibilities of a single department thus developed, nor would it be fair to express an opinion concerning it until the exact nature of its organization has been projected and legislation is pending leading to

its establishment. On first thought, it appears to be a move in the right direction and one which should have the thoughtful consideration of the medical profession, as this new department will have, to some degree, an authority and power possibly comparable in a moderate extent to that given to the British Ministry of Health. In the light of the development of centralizing health activities, the possibilities of a future welfare bureau should not escape the attention of the medical profession lest some measure be instituted which will have for its greatest hazard the politicalization of the health work of this country, rather than its socialization along preventive lines.

The Patients Judge Dispensaries.—In the report on the Study of Dispensary Patients issued by the Public Health Committee of the New York Academy of Medicine, one notes a brief résumé of the opinions of patients concerning the treatment they receive at dispensaries. Only about 30 per cent. of the patients took advantage of the opportunity to express their opinions, and their vocal freedom was limited by the fact that the queries were asked on the dispensary at which they were attending. Despite this fact and the feeling that such information at best is of limited value, owing to the fact that judgment was determined chiefly by the fact of their state of health or self-improvement, their impressions merit consideration.

Of 743 patients, 633 deemed the service satisfactory, 26 thought it fair, 45 judged it of doubtful value, and 39 considered the treatment poor. There is nothing to indicate the real attitude of the patients or the underlying conditions, treatment for which

served as the basis of judgment. It is not at all improbable that a similar canvass of patients receiving ambulatory treatment at private offices might reveal a similar opinion as to the value of the services secured.

This is not in itself a very severe criticism, in view of the fact that so many elements enter into the judgment of patients. Not merely are they concerned with problems of personal relations, but they are largely influenced by the opinions of relatives and friends dissatisfied with the rate of progress in conditions which they do not thoroly understand. The great flux of patients from office to office further corroborates the implied dissatisfaction that is so general among certain groups of patients. Similarly, the rise and development of pseudoscientific cults with their large following, indicate the measure of discontent with current medical practice. Wherefore, statements of the dispensary patients are not to be considered as essentially derogatory to the interested seriousness and skill of dispensary physicians.

Of still greater significance is the statement that 90 per cent. of the patients attending institutions devoted to the treatment of special diseases were commendatory in their comments, whereas but 85.9 per cent. of the patients at general dispensaries regarded the treatment as good, while only 81 per cent. of the patients seeking service at medical school dispensaries were willing to grant the service to be satisfactory. The differences in commendation thus presented are readily understood in the variations of psychology underlying these particular forms of dispensaries. The medical college possesses primarily an interest in teaching, and the patient is depersonalized in the interest of the training of students. By reason of this, it is not

at all strange that the student attention hampers, to some extent, the medical progress of the patient toward health, and involves methods of management that would not be tolerated in other types of institutions. It is patent that the dispensary for the treatment of special diseases, possessing a single interest and having as its personnel a group of physicians of specialized medical training, would give particularly valuable services to the group in attendance, whose psychology also is pre-determined by the reputation of the dispensary whose every effort is concerned with their particular ailment.

In a general way, the opinion of the patients would probably coincide with the *a priori* judgments of physicians who might be consulted as to their convictions regarding the relative values of the treatments offered in these three types of dispensaries.

Inasmuch as dispensaries are organized for the benefit of the patients, it is advantageous to secure a reflection of the ideas of the dispensary clientele concerning the institutions to which they go for relief. It would be impossible to satisfy the demands of 100 per cent. of the ambulatory victims of disease, and to learn that more than 80 per cent. of those who are willing to pass judgment are commendatory of the medical service provided is proof of the general worth of the institutions, and highly suggestive of the excellent work that is undertaken by the large group of physicians who so devotedly offer their services to those unable to take advantage of the same services at current fees. The same individuals as private patients probably would be no more satisfied than they find themselves under institutional auspices.

The Hypothetical Question.—In a most interesting discussion of "Expert Testimony in Criminal Procedure Involving the Question of the Mental State of the Defendant," *Journal of the American Institute of Law and Criminology*, February, 1921, Dr. William A. White raises many interesting questions. Particularly timely is his criticism and discussion of the *hypothetical question* which, from a philosophical point of view, he deems to be an absurdity which should be discarded.

The hypothetical question when answered by an expert presumes to leave to the jury a question of interpreting the facts concerning the defendant. The question, theoretically, is de-personalized, and is supposed to be based upon an alleged state of facts, concerning which the opinion of the expert is desired without any consideration of the defendant himself. Obviously, the alleged facts are supposedly derived from the status, training, experience and heredity of the defendant, altho in the framing of the question the state of affairs is supposed to represent an abstract rather than a concrete condition as represented in the direct history and actions of the defendant.

It is illogical to suppose that a witness can arrive at rational conclusions concerning the mental responsibility of an individual without having in mind direct information and knowledge concerning the individual. It is an absurdity, in fact, to pretend to believe that the hypothetical question as answered does not represent the actual opinion of the expert about the defendant in whose interests or against whose interests the hypothetical question is framed. Psychologically, it is difficult to believe that an expert witness in answering such a question can totally divorce the

abstractions from the concrete elements based upon the definite evidence derived from a study of or a knowledge of the defendant.

It is undeniable that hypothetical questions themselves scientifically are inexact and, unintentionally, partake of a certain degree of dishonesty. The attorney for the defense devises a question which contains those elements which favor his client, while the hypothetical question offered by the prosecution particularly stresses those factors tending to show him up in his worst light. Thus two hypothetical questions are presented in connection with the same problem, neither of which is totally complete in its consideration of all the human elements which should enter into a query designed to determine the mental responsibility of an individual. There is also a failure to consider the relative weight which should be given to individual facts in connection with any particular individual problem. There is thus an elimination of the scientific accuracy which should obtain in any hypothetical question devised to serve as the basis of accurate judgment on the part of a jury.

Similarly, it is unfair to pass judgment upon specific acts that are not considered in relation to the perpetrators thereof. Actions cannot be completely dissociated in judgment from all the facts concerning the actors. The tendency of human judicial procedure is to consider individuals rather than their crimes, to analyze the underlying psychologic bases of human actions rather than to judge the motives and mental status of a person by framing and reversing the abstract factors of the crimes themselves.

In the interests of justice and fair play, hypothetical question should be relegated to an exceedingly subordinate position, and

the testimony of expert medical witnesses should be based upon admitted states of fact pertaining to the defendant, as a result of a study either by disinterested psychiatrists or by a commission of psychiatrists representing the prosecution and the defense with a third member appointed by the judge. A further advantage might accrue if all the expert witnesses were disinterested appointees of the trial judge. The basis of their answers to the hypothetical question which they might frame as a result of their studies would possess distinct scientific value and would strengthen the worth of such expert medical testimony.

As Dr. White properly states, "it is not strange to me that expert testimony has been so unsatisfactory and when I conceive of the impossible things that are asked of the expert, I simply marvel that he has been able to meet the requirements in any measure at all."

Typhus Fever.—In view of the fact that there has been considerable agitation over the dangers to this country from typhus fever, there is a high degree of reassurance in the comments of Alvah H. Doty, M. D., on "Typhus Fever and Quarantine," *Medical Record*, March 5, 1921. He calls attention to the fact that outbreaks of typhus fever have occurred at various times in New York City and have been successfully handled without difficulty by the use of general sanitary measures and careful investigations to detect the presence of all types of the disease. Even tho typhus fever was found in the tenement house sections of the city, and hospital facilities were lacking for the care of the patients, isolation of the sick in their own apartments,

with emphasis upon general cleanliness, was adequate to stay the outbreak.

The presence of typhus fever in the United States resulted in 16 deaths in 1917 and 35 deaths in 1916. In New York City in 1917, there were three deaths from typhus fever. There have been a small number of deaths from typhus fever in the United States annually, but, nevertheless, there has been no occasion for fears or alarm. It is unfortunate when unjustifiable fears are aroused which tend to demoralize rational health activities. They tend to create a reckless hysteria that ultimately results in a loss of public cooperation in the measures so essential to achieving success in the control of the disease. While every effort should be made to attain perfection in quarantine measures, the human element that enters therein makes it probable that this goal will not be achieved. In recognition of this, little is to be gained by regulations which are brutal, impractical, or outrageously drastic.

The brunt of sanitary measures must be directed towards steerage passengers, particularly those arriving from the East, where ignorance, filth and poverty obtain as a menace to the welfare of the inhabitants and continue their effects even tho these peoples emigrate. It is patent that the requisite sanitation should be employed during the period preceding embarkation and should be thoroly carried out. Dr. Doty comments that during his fifteen years of quarantine service he never found a case of typhus fever, plague or cholera among first-class passengers on vessels arriving from foreign countries, and only occasionally one of these diseases detected among second cabin passengers. On the basis of these statements it is obvious that

the steerage passengers represent the crux of the quarantine problem.

Granting that the body louse is the main medium of infection in typhus fever, it must not be forgotten that this annoying parasite is constantly present in communities thruout the United States. Its real harmfulness arises only when it is on the body of a person suffering from typhus fever. At all other times it is merely a source of irritation and discomfort, tho not essentially a public health hazard. Delousing of Americans who harbor this parasite is fundamentally unpracticable. Delousing immigrants is of major importance, and should be performed before the emigrants are transformed into immigrants. The southern states have not been as much disturbed by the immigrants from Mexico, where typhus fever is common, tho to be sure the number of innigrants from this country is exceedingly small compared with those now arriving from European countries.

Recognizing the value of delousing as a sanitary measure, it would be unwise to consider this the complete protective measure for safeguarding the United States from occasional outbreaks of the disease due to immigration. The most valuable means of protecting our citizenry against typhus fever is the careful examination of immigrants for the purpose of detecting all cases of typhus fever which serve as the real factors in its dissemination, even tho the louse may be the actual contagion bearer.

The possible escape of an unrecognized infected person from quarantine is not necessarily a cause for alarm. This possibility should serve as a stimulus to more careful health administration, the prompt reporting of contagious disease, and the

equally prompt isolation of suspects or infected persons in their own homes. The responsibility, therefore, in the final analysis rests upon efficient health officers despite all the stress which may be placed upon quarantine regulations, sanitation, disinfection, delousing, and quarantine of vessels. It is decidedly doubtful whether the present rapid immigration will lead to typhus fever epidemics in this country but, nevertheless, every care should be exercised both at quarantine and during transportation from the port of entry to the permanent abiding place. It would be desirable, as far as might be practicable, to notify health officers of the place of destination of recent emigrants in order that they might be placed under surveillance for a period adequate to establish the certainty of their freedom from typhus fever or other infectious diseases.

Institutionalizing the Mentally Diseased.—The growth of interest in mental diseases, regardless of their etiology, can only be stimulated by a consideration of the census of *Patients with Mental Diseases, Mental Defect, Epilepsy, Alcoholism, and Drug Addiction in Institutions in the United States*, prepared by Pollock and Furbush, *Mental Hygiene*, January, 1921. The data were obtained from 625 institutions in the United States, and does not include patients on parole or otherwise distinct from the institute.

On January 1, 1920, institutions housed 232,680 patients with mental diseases, while on January 1, 1918, the number of persons similarly cared for was, approximately, 223,957. On January 1, 1920, the total

number of mental defectives in institutions in the United States was 40,519—an increase of 1,138 over the number institutionalized in 1918. It must not be forgotten that only a comparatively small portion of the total number of mental defectives is cared for in institutions, and hence the census gives no adequate picture of the prevalence of the mental defectives in the general population. There were 14,937 epileptics not suffering from other mental diseases—a total increase of 2,993 over the figures of 1918. Alcoholics to the number of 1,163 were in institutions on January 1, 1920, but it is cheering to note that on January 1, 1917 the total number of inebriates in institutions numbered 4,891, or two and one-half times the number shown by the 1920 census. The drug addicts on January 1, 1920, in institutions numbered 808.

A census of this character does not really reflect the actual increase of patients with these various afflictions, nor their actual numbers relative to the growth of population. They do, however, evidence the increase of institutional care that is given to the various types of afflictions considered. In all probability, for example, the rate of incidence of mental diseases based on general population has increased much less rapidly than the number of patients admitted to institutions for the care of the mentally diseased. To illustrate: While the general population has increased to 110 per cent. since 1880, patients with mental diseases segregated in institutions have increased to 468.4 per cent. This fact is more especially noticeable, for example, in the State of New Mexico, where the general population increased only 10.1 per cent. from 1910 to 1920, while the per cent. of

mental patients increased in institutions 62.6 per cent., or in North Dakota with a general population of 11.9 per cent., but with a general increase of mental patients in institutions of 97.9 per cent.

In 1910, 17 of the 48 states reported no mental defectives in institutions, but on January 1, 1920, 46 states reported mental defectives under institutional care, and the rate of patients per 100,000 of general population rose from 22.5 per cent. to 38.3 per cent. This tendency towards the segregation of mental defectives is not equally forceful in all states, and the variations in state activity are not necessarily due to a different rate of mental defectives in the general population. Massachusetts has 82.9 mental defectives in institutions per 100,000 population, New York 55.5 per cent., Pennsylvania 49.1 per cent., California 28.2 per cent., Virginia 17.7 per cent., South Carolina 9.2 per cent., Georgia 0.2 per cent., while the general average for the United States was 38.3 per cent. on January 1, 1920.

Considering that nearly a decade has elapsed since the importance of institutional care of mental defectives has been emphasized, the gross gain in this direction is highly satisfactory. From the standpoint of individual results, many questions might be raised as to the actual value of institutions for the care of the mentally diseased and the mental defectives, but from a consideration of the protection of the community from the hazards inherent in these two types there can be little question as the benefits of the necessarily large financial outlays for the housing, maintenance and protection of these unfortunates.

Viewed in the light of presenting an op-

portunity for study and investigation of these conditions, their value depends upon the personnel and the establishment of adequate laboratory facilities. If any light is to be shed upon these prodigious problems, it will come from the constant observation and study of the institutionalized individuals. In the meantime, the profit to the public arises from the protection of the community and a consciousness of an attempt to deal justly with these unfortunates in our population.

Teaching the Teacher.—In *School Life*, March 1, 1921, appears an article by R. L. Watts with the title "Teaching College Professors to Teach." While the subject matter relates to a successful experiment at Pennsylvania State College, largely devoted to agricultural training, there is a wealth of suggestion for medical institutions of learning.

With few exceptions, the teachers, instructors, and lecturers of medical colleges are selected on the basis of their training and experience, and their familiarity with the subject matter of their especial courses. It is to some extent assumed that a knowledge of a subject carries with it a measure of capability of imparting it. This, however, is contrary to general experience and, as a result, many individuals are attempting to teach subjects which might be taught better by men more gifted in pedagogic powers, even tho they lack some of the intensiveness of knowledge concerning it. The reputations of many excellent, practical clinicians, surgeons and pathologists would suffer considerably if their standing were determined by the opinions of students concerning their teaching ability.

There would be a distinct advantage to the undergraduate if instructors in medical colleges were required to secure some training in pedagogy or in the principles and practices of teaching. If their knowledge of what to teach were reinforced by an equal knowledge of how to teach, there would be a noteworthy gain in the character of medical education.

There would be a marked advance in teaching methods if the teaching staff were given the benefit of a course of educational training by and at their respective institutions. A few lectures upon educational topics presented by trained and experienced educators would result in raising the standards of college faculties, improve the quality of their work, and strengthen the facilities of the institution, by furthering the efficiency with which the instruction is imparted.

There is no doubt that a program of this nature violates the traditions of medical colleges, but, nevertheless, any scheme which will enable teachers to develop the thinking ability of students merits consideration. If it has been found helpful in raising the value of services of new instructors in an agricultural college, and in improving the technic of older teachers in technical institutions, there is little reason to believe that a course of a dozen lectures would not be distinctly advantageous to physicians, who, for the most part, are engaged as teachers without much consideration of their potentials as educators. This is a suggestion that might well be considered by the deans of medical colleges, solicitous of the welfare of their student body and interested in improving the character of medical instruction.



Main Street Doctors.—Sinclair Lewis' much talked-of novel, "Main Street," has a special interest for physicians, the leading male character and several of the subordinate individuals being doctors. The book is a vigorous, unsparing exposure of the ugliness, the banality, the smug fatuity of our hinterland of small, "progressive," mid-western towns. And the doctors come in for their share, their good-natured inefficacy, their cultural limitations, their rural conception of medical ethics being depicted in such a manner as to arouse amusement in the urban practitioner and resentment, no doubt, in the rural doctor. A significant chapter is that in which Carol, wife of Dr. Kennicott, the most popular doctor in Gopher Prairie, sounds him on his opinion of his colleagues, hoping to find her husband broad and generous after the manner of city physicians.

"You were speaking of Dr. Westlake. Tell me," she says, "you've never summed him up; is he really a good doctor?"

"Oh, yes," Kennicott replies, "he's a wise old coot." But when she refers to his rival as gentle and scholarly, he breaks in: "Well, I don't know as I'd say he's such a whale of a scholar. I've always had a suspicion he did a good deal of four-flushing about that. He likes to have people think he keeps up his French and Greek and Lord knows what all; and he's always got an old Dago book lying around the sitting room, but I've got a hunch he reads detective stories 'bout like the rest of us. He kind of lets people assume he went to Harvard or Berlin or Oxford or somewhere, but I looked him up in the medical directory and he graduated from a hick college in Pennsylvania, 'way back in 1861!"

"But this is the important thing: is he an honest doctor? Suppose you were sick, would you call him in?"

"Not if I were well enough to cuss and

bite, I wouldn't! No, sir! I wouldn't have the old fake in the house. Makes me tired, his everlasting palavering and soft-soaping. He's all right for an ordinary bellyache or holding some fool woman's hand, but I wouldn't call him in for an honest-to-God illness, not much I wouldn't, no, sir!..."

"But, Will, there isn't any of what you might call financial rivalry between you and the partners—Westlake and McGanum—is there?"

"Lord, no! I never begrudge any man a nickel he can get away from me fairly."

"But is Westlake fair? Isn't he sly?"

"Sly is the word. He's a fox, that boy! Yump, he's smooth, too smooth. But I bet I make prett' near as much as Westlake and McGanum both together, tho I've never wanted to grab more than my just share. If anybody wants to go to the partners, that's his business, tho I must say it makes me tired when Westlake gets hold of the Dawsons. Here Luke Dawson had been coming to me for every toeache and headache and a lot of little things that just wasted my time, and then when his grandchild was here last summer and had summer complaint, I suppose, or something like that probably, why Westlake got hold of Ma Dawson, and scared her to death, and made her think the kid had appendicitis and, by Golly, if he and McGanum didn't operate, and holler their heads off about the terrible adhesions they found, and what a regular Charley and Will Mayo they were for classy surgery. They let on that if they'd waited two hours more the kid would have developed peritonitis, and God knows what all; and then they collected a nice fat hundred and fifty dollars. And probably they'd have charged three hundred if they hadn't been afraid of me! I'm no hog, but I certainly do hate to give old Luke ten dollars' worth of advice for a dollar and a half, and then see a hundred and fifty go glimmering. And if I can't do a better pendentomy than either Westlake or McGanum, I'll eat my hat!"

The doctors of West End Avenue and Lake Shore Drive will smile down from their high altitude on this specimen of Main Street medical ethics.

The Making of a Physician.—In the making of a physician, says E. G. Jones

(*Medical Standard*, Mar., 1921), a doctor should rid himself of all prejudice against any school of medicine or system of therapeutics. Your business as a physician is to heal the sick, and it is your duty to use every means in your power to accomplish that result. It is a sad fact that very many adults and children have gone down to an early grave because some doctor followed blindly, slavishly the authorities of his particular school of medicine. He would rather sacrifice the patient's life than try any doctor or remedy outside of his school of medicine.

Dr. Benjamin Rush, the father of the regular school of medicine in Philadelphia, used to say "that if a doctor wanted to become eminent in his profession, he must cut loose from the schools of physic and be a physician." Dear reader, are you a physician or just plain "Doc" to your patrons and friends? There is a vast difference between a doctor and a physician. We are turning out doctors from the medical colleges every year by thousands. We have horse doctors, hair doctors, corn doctors, doctors of music and dancing; in fact, the name "doctor" may mean most anything. It has become so common that there is no particular honor in calling a person a "doctor." We have in our country a few men who are worthy the name of physician. To call a man a "physician" is the greatest honor that you could confer upon him, for to be worthy of the name of physician, a doctor must know how to heal the sick!

"A wise physician skilled our wounds to heal

Is more than armies to the public weal."

What One State Has Done for Those Suffering from Narcotic Drug Addiction.

—In a former issue we had the privilege of printing a splendid article by Dr. M. W. Swords, the efficient Secretary of the Louisiana State Board of Health giving an outline of the New Orleans system of handling drug addicts. At that time we expressed our warm approval of Dr. Swords' plan. As the months have gone by, the wisdom of the methods employed has been shown, altho Dr. Swords has had many obstacles to overcome. A paper in the current issue of

the *American City* by Paul W. Kearney, a well-known social worker, and from which we are pleased to quote, gives a remarkably keen analysis of Dr. Swords' work, and states that the Louisiana State Board of Health is a modern organization that has approached the topic intelligently.

"The state of Louisiana," writes Mr. Kearney, "felt compelled to adopt some action with reference to drugs, considering the popular attitude, and therefore enacted a law aimed at the better control of the traffic. The enactment cut off the drug supply at its source, and should have, were the old theories correct, prevented all further trouble. What it did, however, was to start trouble!"

"Dr. Marion W. Swords, Secretary of the State Board in New Orleans, was the man on whom the brunt of the outcome fell. Using Dr. Swords' own words, 'an avalanche of human misery' swamped him upon the enforcement of the regulatory law. Hundreds upon hundreds of addicts—for the greater part men and women in the best walks of New Orleans life—found themselves suddenly deprived of the one thing on earth they needed to keep body and soul together. As soon as their supplies were exhausted, the poison began to work and they were torn to distraction with their suffering. Observing these conditions with an open mind, Dr. Swords sensed the need for quick and constructive action.

"His first move, altho it struck horror into the minds of many folks, was a master-stroke that saved the situation. He purchased a large quantity of narcotics from a wholesale drug house and sold it to everyone whose condition testified a need for treatment! The price was only 10 per cent. more than the actual cost, yet the net moral results of the plan greatly overshadowed the immediate financial saving to the addicts.

"Its instantaneous effect was the squashing of illicit peddling. As soon as the state law went into action, the underground traffic started on a large scale. This will always be true. The addict, because he is a poisoned man, and because the opiate is an antidote to the poison, *must have the drug* until his disease has been cured by the gradual withdrawal of the drug under strict clinical control. If the law prevents him from getting it legally, he must then get it illegally. Putting a bill thru the legislature is no manner in which to stop the *need* for a drug! That has been proved in every locality where strict regulations have been heedlessly enforced.

"But the New Orleans plan promptly removed all opportunity for illicit traffic. The man who needed narcotics first convinced the medical authorities that he did, thru the medium of expert clinical examination—an item neglected in most other cities—and then he got what he required without any of the disgrace and ignominy attached to that procedure elsewhere. The peddler found that he could not compete with the state's price, so he deserted New Orleans for vicinities where he could ply his trade

with the inadvertent cooperation of the authorities.

"Meanwhile hundreds of sick addicts were being given the best medical attention, and every precaution was taken to guard the confidences these people placed without restriction in the hands of Dr. Swords and his men. Two physicians and a nurse worked on the job. A dispensary was equipped and divided into four sections, for black and white males and females. A confidential record was kept in a book never in any one's hands but Dr. Swords'; no elaborate registration system was used, such as has failed in New York, for it was even made possible for the addict to get his opiate under a *nom de plume*, provided he kept the same name all the time. This was easily checked back thru the signatures and other incidental information. In New Orleans there was no fingerprinting and photographing of the addicts; no long waiting lines pointed out to sight-seers from rubber-neck cars; no duplicate card forging; and none of the other disgraces so common to the old-fashioned method. The addict there is treated as a patient and not as a subject for publicity!"

The Fundamental Purpose of the New Orleans Clinic, and the Results Obtained.—On such a sensible foundation did the Louisiana Board of Health operate. The clinic was founded on these principles:

"1. We realize that a permanent cure of those afflicted with drug addiction-disease is impossible, in the great majority of cases, unless the addict be placed in a position to secure scientific treatment. The sole object of this dispensary is to relieve suffering until such time as a scientific treatment may be had.

"2. The basis of operation is legitimate supply *versus* illegitimate trafficking.

"3. To prevent a victimized people from being more thoroly victimized by heartless, profiteering ghouls. To prevent the making of new addicts.

"4. Diminishing petty thievery, which constitutes a tax or burden on society, for the reason that many addicts, unable to pay the price of from \$1 to \$3 a grain, are forced to criminal methods."

Dr. Swords aptly summarizes the outcome in these words:

"Temporary relief of addicts at a minimum cost. No new recruits thru this dispensary. Petty thievery diminished among the lower class of addicts. We have made economic assets of many who formerly were human derelicts. We have made happy mothers and children by enabling fathers and husbands to keep honestly employed. We have raised the morale of addicts so that they no longer wish to steal since the actuating motive has been removed. We have surrounded the high-type addict with security and protection, and concentrated and segregated the principal offenders in petty crime. All of this has been accomplished at no cost to the State Board of Health."

Especial attention is called to that last phrase—"at no cost to the State Board of Health." In itself that is a remarkable accomplishment. They not only got enough money from their

small profit of 10 per cent. to pay expenses, but they also managed to create a fund of several thousand dollars which has been put into facilities for the study of the disease! Considered together with that unforgettable fact that it also eliminated the peddler, the genuine value of Dr. Swords' original master-stroke is seen at a glance."

It will be a matter of great satisfaction to the many friends who have been watching Dr. Swords' undertaking to learn that the attempt to discredit him and his work failed ignominiously. Fortunately, Louisiana has a big, courageous, intelligent man for governor, and Governor John H. Parker was able to see at once what Dr. Swords has accomplished. His words of approval and encouragement to Dr. Swords carried hope and cheer to every earnest worker who is trying, no matter how humbly to help solve this great problem of narcotic drug addiction.

Science and Politics.—The never-ending discussion of prohibition, the ills it has introduced in place of the ills it proposed to cure, can be clarified once and for all by the realization that prohibition, a strictly scientific question, was forced on the American people by a strictly political group. The whole crux of the question is here: The problem of prohibition should have been made the concern of American scientists, who, after giving the matter long and unprejudiced thought, should have presented their conclusion to the public whom it was to affect. Prohibition was introduced by politicians over night. The result is naturally such as would come from the circumstances. The politicians were no more qualified to pass on the problem of prohibition than was the police department in passing judgment on such a high work of art as William Branch Cabell's "Jurgens." It was a question entirely out of their field. It is a singular thing that these conservative politicians, who abominate anything revolutionary, have yet given their consent to a step that is more revolutionary than anything that has occurred in American history in a century, the abolition of slavery included. The results of prohibition bear the stamp of revolution: of a sudden, ill-considered, violent change that leaves chaos behind it. It is folly to think that prohibition has cured or even checked

the drinking habit. Even the most careless observer sees evidence everywhere about him of excessive drinking and the horrible results of the quest for substitutes which ends in the consumption of poisonous concoctions. That was to be expected. It was predicted in these columns. And it is slightly humiliating to a proud American to realize that the course obviously prescribed by the nature of man and the nature of the problem, a course utterly ignored by our legislators, is being followed in England, where at this time prohibition is a vital issue. They are going about it in the right way there. There is much excessive drinking in England, and there are many ills resulting from these excesses. But there is no attempt in one fell blow to lay low John Barleycorn. British legislators seem to realize the folly, the utter impotence of such a course. They have preferred to invite the opinions of scientific investigators. These have issued a first report. Dr. H. M. Vernon, reporting to the Central Control Board of Liquor Traffic of the British Government, states that the toxic effects of alcohol are relatively very much decreased when alcohol is diluted and that 3 per cent. beer is a non-intoxicating liquor. Dr. Vernon calculates that more than ten pints of beer, which would require over four hours to consume, would be needed before intoxication resulted. Dr. Vernon, it should be emphasized, conducted his experiments in strict scientific fashion, his efforts be remunerated by the government and not by the brewing interests. It seems wholly fitting that a medical man should decide this important question rather than a group of politicians and cranks, and it is a comment on the intelligence of English leaders that they are choosing so sensible a course.

In view of this, we are glad to lend whatever weight we can to the recent public protest of a practitioner of long and high standing against the evasions and petty violations to which the prohibition laws have driven many a reputable physician. The doctor in question has been in practice for over thirty years and holds a high position in medical and educational circles. "I am not a criminal by nature," he says in his protest, "but I cannot practice my profession without doing petty but really criminal things. I have a good many elderly pa-

tients, men and women with more or less senile hearts, susceptible to colds, infections and fatigue. I find it a physical or mental help to give these people occasionally an alcoholic stimulus or sedative. Some of these patients live out of town, and tho I prescribe for them they cannot get my medicine without breaking the law. Tho I can prescribe for others, I cannot prescribe for myself without some semi-criminal subterfuge. I have tried now for nearly nine months to get a permit to have pure ethyl alcohol for surgical external use in my office. I have been visited by two inspectors, who examined my professional outfit and asked about my professional career. I have signed and sworn to various documents testifying to my correctness of life, etc., but I have no permit and must infer that I am unfit. I loathe drunkenness and drunken men and feel that the one good thing in Bolshevism is that they shoot their drunkards. I am glad the saloons are gone, that the use of alcohol is restricted, but the country is paying the price of harsh, unnecessary and arbitrary methods. The loss of personal liberty is deeply resented, and a widespread indifference to the law and to the idea of criminality has resulted. This is not only true of New York, but I have found it still more true in rural sections where temperate users of alcohol are more shut off from any degree of indulgence than here. This protest is written as the expression of resentment against the Prohibition Law, because it makes us doctors at least near-criminals and hampers us seriously in our professional work."

When will the authorities realize that they are tampering with the health of the population in placing obstacles in the way of the conscientious practitioner?

Opposition to the Jones Bill Regulating Importation of Narcotic Drugs.—In referring to the narcotic drug problem we would like to call attention to a copy of a letter sent to Senator Jones, expressing the opposition of the Public Health Committee of the New York Academy of Medicine to his proposed bill, which prohibits the exportation from and transit thru the country of habit-forming drugs and restricts importation to such amounts of crude opium

and coca leaves as the United States Public Health Service may determine.

The committee expresses opposition to the bill thru its Executive Secretary for the following considerations:

1. The government regulation would create a dearth of drugs and concomitant increase in price;

2. Smuggling will be encouraged, the drug addicts will continue to be supplied thru illicit channels, and legitimate medical requirements will suffer;

3. A monopoly of production of morphine, codeine and cocaine will be created as importation will be limited to crude products only; and,

4. The desired protection of drug habituéés in foreign countries could be obtained if the existing law be amended in conformity with the provision of The Hague Convention of 1912, limiting exportation to such persons in foreign countries as possess permits from their own governments for the importation of the drugs: Following is the letter:

My dear Senator—The Public Health Committee of the New York Academy of Medicine has given a great deal of consideration to your bill, No. 4553, which prohibits the exportation from and transit thru the country of habit-forming drugs and restricts imports to such amounts of crude opium and coca leaves as the United States Public Health Service may determine.

The Public Health Committee is in full sympathy with the motive of this bill but desires to point out certain difficulties which would arise if this bill were enacted into law.

1. To entrust to official discretion the determination of the amount of crude drugs to be imported into the United States for medicinal purposes is likely to result in there being no reserve for unforeseen emergencies; first, because of the limitation of the supply, and secondly, because of the probable deflection of a certain amount into illicit channels, creating a dearth of the drugs for legitimate medical purposes and resulting in a great deal of suffering.

2. The limitation of imports, as proposed, will create a tendency to smuggling with which, in view of the difficulty of tracing small amounts which could be sent in letters and other ways, it would be exceedingly difficult for even a large force of Custom House officials to cope. In other words, legitimate users would be handicapped while those whom we try to protect will not be benefited by the legislation.

3. If the present law should be amended to incorporate the provisions of article 13 of The Hague Convention of 1912, that is, to limit the exportation of drugs to such persons in foreign countries as have special authorization or permits from their respective governments for the

importation of the drugs in question, sufficient control will have been provided for the protection of the drug habitués in foreign countries and, moreover, this would be more in accordance with the provisions of the aforesaid treaty than the complete prohibition of exports.

4. The limitation of imports to but crude opium and coca leaves would mean that no morphine, codeine, cocaine, and other preparations could be obtained in this country except of local manufacture, which would be a trade protective measure of an extreme character and it will inevitably tend to increase the price of these products for legitimate purposes.

These are the principal reasons why the committee is opposed to the passage of the bill as proposed by you. In the opinion of the committee such a law will only be unduly restrictive on those who will legitimately have to use the drugs and it would not in any way change conditions it is intended to ameliorate.

We sincerely hope that you will give thoughtful consideration to the objections raised by the committee.

Very truly yours,

E. H. LEWINSKI-CORWIN,
Chairman.

Compulsory Health Insurance.—There is no denying the fact that compulsory health insurance is the most important question confronting the medical profession today. The nature of the problem is such and, theoretically at least, there is so much to support the contentions of those who advocate health insurance, that it cannot be as a matter that will take care of itself. The question must be considered from every angle and every earnest opinion taken for what it is worth.

Recently there have been quite a good many articles opposing compulsory health insurance, and it would seem that the sentiment of the profession against the movement is by no means small and unsequential. Our esteemed contemporary, the *Illinois Medical Journal*, has been combating compulsory health insurance for some time, and deserves much commendation for its spirit in fighting so strenuously what it believes is going to injure the practice of medicine to a grave degree. In the February issue of the *New York State Journal of Medicine*, A. L. Benedict, one of the best and soundest thinkers on medical problems, states freely that when we get down to brass tacks, compulsory health insurance lacks every practical point which the word insurance implies. The term in-

surance is not even a talking point, for the fallacies associated with it appear as soon as it is talked about in any truthful spirit. Disregarding the very obvious interests of the medical profession, it is simply a disguised form of pauperization. It does away with or supplements the forms of medical philanthropy established on a proper basis and maintainable on a proper basis if honestly controlled. It fails to provide adequately for overwhelming and permanent or protracted cases of disability, to which a similar scheme might very properly be applied without great cost to the state directly or to any of the participants in paying the ultimate cost. It does not protect even the more or less dependent class, which is already pretty well provided for by existing means, which may not be ideally systematized, but which have the same justification as the many peculiarities and theoretic inconsistencies of the British Government, namely, that they have developed gradually to meet actual demands, and have been perfected in operation by long and wide experience. On the other hand, it applies to a class in a very limited and almost a political sense, and in this class it far transcends the proper limits of philanthropy. The scheme is so extensive that it will not only reduce medical practice to a chaotic condition, but there is serious danger that it will revolutionize the entire financial administration of the state government—and let us remember that New York is not the only state threatened—as well as that of its major industrial institutions, upon which the state itself is largely dependent for its support.

Oral Sepsis and Its Clinical Role.—The important relationship of oral sepsis to internal medicine, so clearly pointed out in terms of almost uncanny reality by Dr. Rush, more than one hundred years ago, long before the understanding of microbic origin of disease, the cultivation of microorganisms, the selective action of germs, and the classification of these organisms, accordingly to the editor of the *Virginia Medical Monthly* (February, 1921), seems unfortunately to have unimpressed the doctors of succeeding decades until about ten years ago, when the modern conception of this

important relationship was acquired. Now, beyond a possibility of a doubt, altho the mills of science in proving facts grind exceedingly slow, internal medicine, as a specialty, has been greatly advantaged by this now established etiologic relationship.

In the locomotor system, probably we see the most frequent metastases of teeth infections. Metastatic infectious arthritis may arise not only from teeth infections but also from tonsils, paranasal sinuses and mastoids. Hypertrophic osteoarthritis, seen in older people, may result from pariapical granulomata. One's disappointment in at once not getting improvement in joints, after the extraction of teeth found to be diseased, is extremely great, but how may we be expected always to get relief in secondary osteoarthritis by the late removal of a primary focus? In addition to joint metastases, there may be infection of tendons, fasciæ, bursæ and fibrous tissue about the joints, which seriously impair function of the joint.

Disease of the circulation secondary to oral sepsis may show itself in acute infectious endocarditis in the young, and subacute infectious endocarditis or endocarditis lenta in the adult. Also, the muscle function of the heart may be markedly affected by an infected mouth. This has been observed frequently by the writer in treating heart affections in cases of extrasystolic arrhythmia. Arterial disease, increased blood pressure, and low blood pressure are, likewise, not infrequently influenced by the infectious condition of teeth.

Diseases of the blood and the blood-making organs are also a frequent sequel of oral infection. This is seen in the anemias. The diseases of the stomach seem to bear a like relation often times. Infections of the stomach and the functional disturbance of it may be begun by oral sepsis, and ulcer of that organ or duodenum may be finally accomplished by infection from diseases of the mouth.

So, in the urogenital system where there is glomerulotubular nephritis, pyelitis, prostatitis, etc., this rôle of the primary infection from the mouth may be played.

In the diseases of the nervous system, oral infection may quite frequently serve as the primary focus. Multiple neuritis, chronic neuralgias, trigeminal neuralgia, in-

tercostal, brachial, sciatic neuritis, may be enumerated as illustrations. Sciatica, in the writer's experience, is not infrequently associated with arthritis of the sacroiliac joint and, while extremely difficult to relieve, is associated with chronic infections of tonsils or teeth.

The diseases of the endocrine and metabolic systems, as seen in thyroiditis and Graves' disease, are also affected by oral sepsis. Their relation to ovarian abscess has not been established, nor has their relation to diabetes resulting from necrosis of the pancreas. There is an undoubted causal relationship to the trachitis and bronchitis. The writer has frequently relieved recurrent non-tuberculous cough by having diseased teeth extracted, or chronic infection of the tonsils or paranasal sinuses cleaned up.

How Doctors Die in America.—The New Year issue of the *Journal of the A. M. A.* contains the usual prompt analysis of the deaths of medical men in the United States of America during the preceding year. General diseases accounted for 257 deaths, diseases of the nervous system 271, diseases of the circulatory system 404, diseases of the respiratory system 266, diseases of the digestive system 70, diseases of the genito-urinary system 154, senility 77, suicide 32, accidents 102, homicide 14, and sequels of surgical operations 74. The most frequent assigned causes of death were: Organic heart disease 236, cerebral hemorrhage 211, pneumonia 186, nephritis and uremia 142, malignant tumors 91, tuberculosis 59, angina pectoris 50, pneumonia-influenza 37, and arteriosclerosis 33. The causes and distribution of the 102 deaths from accident were: Automobile 27, automobile-railway (grade crossing) 22, poisons 9, falls 8, firearms 7, drowning 6, railway and street car, each 5, asphyxia 3, exposure and burns, each 2, crushing 1, and other accidents 5. The 32 physicians who ended their lives by suicide selected these methods: Firearms 18, poisons 7, cutting instruments 3 strangulation 2, jumping from high places and drowning, each 1. Of the 14 homicides, 9 were due to firearms.



Godfrey R. Pisk



IN MEMORIAM

TRIBUTES TO GODFREY ROGER PISEK, M. D., Sc. D.

In the death of Godfrey Roger Pisek, the American medical profession has lost one of its most distinguished members. He died suddenly from heart disease on January 19, 1921. An impressive memorial meeting was held in honor of Dr. Pisek on the afternoon of Tuesday, January 25th, at the New York Post-Graduate Medical School and Hospital. The meeting had been arranged by the Faculty Association and was in charge of Dr. John J. Moorhead, a lifelong friend of Dr. Pisek. Dr. Ellice M. Alger presided. The Rev. Frederick E. Stockwell made an inspiring prayer. Dr. James F. McKernon, the president of the faculty, spoke briefly of the great loss the school had sustained by the death of Dr. Pisek, and Dr. Knopf and Dr. Brush paid their tributes to the departed friend.

THE SPIRIT OF GODFREY PISEK.

BY

DR. FREDERIC BRUSH,

Formerly Superintendent of the New York Post-Graduate Medical School and Hospital.

It was the spirit, the light of Godfrey Pisek that made us love and follow him—and made this meeting inevitable. The hour is too weighted with deep feeling and with generous meanings to be much taken, it would seem, in enumeration of public and official achievements, notable as they were in his forty-eight years. He was educated in the schools of New York, graduated from New York University with B. S. de-

gree and from New York University Medical School, coming upon the House Staff of the Post-Graduate Hospital as substitute in 1896, and by regular appointment in 1897. Advancement was steady and to high places. In Medicine he was paramount as a teacher, and gave the body of his working hours to this, attaining early to such positions as—Professor of Pediatrics in the University of Vermont, Pediatricist or Consultant to many of the better hospitals and children's homes in this vicinity—Memberships in City, National and International Societies, scientific, civic and social, in which he frequently held high and onerous office. He advanced steadily thru all phases of the children's work at the Post-Graduate into the Directorship of the Pediatric Department—consummating twenty-five years of faithful service, distinctive leadership and at times brilliant organization and pioneering.

The Post-Graduate was Dr. Pisek's motive home, his real alma-mater nourishing mother; he has left one of the deepest single marks yet upon this institution and its societies and associations; here he rooted and grew—and dropped down here at the end of a morning of fresh, unselfish planning for her—in a smiling vision of the warmer, truer up-town home he was going to.

Yet how this list of accomplishments, which could be far extended, fails to satisfy this gathering. Even a stranger listening in would justly crave some more intimate

portrayal of the man—Pisek (for so we called him, ever in best way, and shall). Thru these enwreathing public and official distinguishments we press in then to know, while yet we may, the core-fibres of the man—the secrets of our friend's so high success with a little life.

A while ago I was brooding upon the future of our so-called civilization—the trends of the race, within conceivable time; and came out, as have others, upon a person with dominant head carrying luminous wide eyes, that glanced pregnant messages to and from the higher developed brain. A swift play of special senses beyond our ken was evident. The body seemed slight, but ample for the poise and ministration of the exalted intelligence. Movement, speech and thought gave constant impression of a singular assurance and harmony. Utter kindness, even gaiety, pervaded all.

Quite naturally, I thought back for beginnings, and is it not notable that after a time I settled upon our Dr. Pisek, as carrying, more than any other personally known, the clear indications of the coming man—the racial hope; not in mass so much as in quality and adjustment.

Dr. Pisek won, aided, inspired and led us, and thousands of all classes, by virtue of this triune endowment, symmetry and harmonic balance, sensibilities of the keenest and truest, and an inexhaustible cheer and kindness. A few of these signal men and women are always about us presages of the future. When they drop alongside we begin to understand. We thus come at our friend; we see him now partially, as immured in Time and Fate, and wish our sons to grow up like him.

What a congruous and shapely man. None of our national self-making or self-madeness was apparent. He came made—as first met in the Medical School, laughing

down the corridor with the serious-looking Moorhead, thru groups of sombreness and doubt—all ready for life as it was in '94. He was born thirty-five years old and stayed so with the playfulness of youth, the will and constructive urge of middle-age, and the judgment and synthesis of senescence; age transformations lessen with the higher types. Such all-roundness of personality is very uncommon: investigator, teacher, author, builder, naturalist, woodsman, wit, comrade and ideal host and home-maker; with the humanities never scrimped. Indeed, a full harmonic life, made possible by a complete Osler-like entry with closed door, into every hour. Each morning was taken in the mood of Howell's fine last line of an obscure sonnet, "Well, anyhow it is another day"; or as another has written, "For this may be the white high day of life, the richest or the holiest or the last." There never came to him DeMaupassant's "Terrible middle-age from which one first foresees the end of the journey." How validly all ages early associated with him, from babe to patriarch—the mark of an advanced being.

Pisek's dauntless cheer and courage will perhaps be longest remembered of all. By sick-bed, in the troubled meeting or council, on the sweaty forest trail—everywhere, always he gave the half-humorous, heartening word or gesture that carried over. And in full self-knowledge of the crippled heart that was bound to shorten things, there is but one record of a brief depression—when he could not go with his old friends to the World War. The last of speech was a joke that eased and brightened a friend. He would not wish this occasion to pass without smiles. As we were near quitting, exhausted by night-and-day turmoils of a July hot-spell in hospital, he rallied us (I can see his haggard face) with quip and

parley, and we went on. "There are much hotter places, Brush, and doing well here may help keep you out of them"; then with a comical look at me—"doubtful." "Anyhow, this training will make you feel more quickly at home." This humor was an essential part of his armamentarium. He accomplished much with it, and it never hurt. Who can show a scar from Dr. Pisek? Could this be truly said of another here?

Much has been told of this man's goodness to the poor and distressed; but those nearest have hardly ever thought of it. There are two kinds of democrats—one who trains self to go down and about in aid of the less fortunate, and the other that never really knows distinctions. Both are good. Pisek was of the latter. Toads, trees, storm and sunrise, dirt, idiots, groping immigrants, lords and ladies, and the mass of average people were the texture of a glad life, and he reacted naturally with them all. This innate comradeship and counsel carried broadly from the sickly tenement to the inceptions of Czecho-Slovakia.

"Friend Godfrey" had a big living time—play, love, society, adventure, success, the sanities of beauty and art. We shall not subscribe to the cant that he died at the right moment. Twenty-five years more of his life were better than death, good as that is; his kind the United States needs—European proportionateness with American verve; portent of the Nobility which we are to form. But the castings of the shuttle are by unseeable hands, and precious life time may be wasted upon the query of the why.

There will be abundance of life after death for this superior man. It is pleasant to think that his very dust will give a richer tinting to the bloom, more gaiety to song and wing, and perchance sunsets of a deeper hue and longing. The perpetuation of off-

spring is assured and far-tending. But immeasurably greater than these is the sure immortality of influence, of personcity, extending ever outward thru his friends and his deeds. "Only life-waves last; trembling on thru myriad other circles of love and of will; merging at intervals in a passing life with doubled power, the lowering urn of being to refill."

Have we not met today to bear away into vibrant life some of these undying parts of our friend? Memorial ceremonies and monuments are justified only as they perpetuate the best, upon the living. Dr. Pisek would be pleased at all this today, and would smile and say to family and friends and to the thousands that knew and felt him: "Carry on—carry on!"

"WELL DONE, THOU GOOD AND FAITHFUL ONE."

BY

DR. S. ADOLPHUS KNOPF,

Formerly Professor of Phthisiotherapy of the
New York Post-Graduate Medical School
and Hospital.

Godfrey Pisek was born in the city of New York in 1873; he was graduated from the Academic Department of the New York University as Bachelor of Science in 1894 and from the Medical Department of the same University in 1897. After having finished his internship at the Post-Graduate Hospital he became visiting physician to the babies' wards of the New York Post-Graduate Hospital, the Park Hospital, the Willard Parker Hospital, and the St. Bartholomew's Hospital and later on, consulting pediatrician to the Union Hospital, Port Chester, N. Y., the Darrach Home for Children, and the New Utrecht Hospital. Dr. Pisek was a

member of the New York Academy of Medicine, the New York County Medical Society, American Medical Association, Society of the Alumni of Post-Graduate Hospital; president of the New York Post-Graduate Faculty Association, and Mutual Aid Society, and one of the founders and the first treasurer of the Alumni Association of the University and Bellevue Hospital Medical College. He was active in social work and was the honorary president of the Lenox Hill Settlement and a director of the John Huss Neighborhood House; also professor of diseases of children of the New York Post-Graduate Medical School and the University of Vermont. The latter conferred upon him the degree of Sc. D. in 1914. During the war he did valuable child welfare work.

Dr. Pisek was a frequent contributor to the medical journals in his specialty and on public health topics in general. His principal work was a textbook on Diseases of Children as co-author with Prof. Chapin, the fourth edition of which appeared in 1919. He was for many years an assistant editor of the *New York Medical Journal*. Dr. Pisek was considered one of America's most eminent specialists in pediatrics and had been connected with the New York Post-Graduate Medical School for many years as one of its most distinguished teachers. He was a most lovable man and companion and a most sympathetic physician who knew the art of winning children's hearts and confidence. Dr. Pisek will be long remembered by his countless colleagues, friends and pupils as well as by grateful parents whose children he restored to health and by us, his fellow alumni, his comrades, friends and co-workers, he will never be forgotten. Well may we say of him,

"FEW HAD MORE FRIENDS."

From out the midst of life so full of work,
Of love and service to mankind,
He has been called away!
Away from us, his comrades,
And from those who loved him best
As father, husband, and as friend;
From those who were his pupils and his aides,
Inspired by his devotion and his skill;
From those who read his works
And followed his advice
When called the ills of children to assuage.
These men, unknown to him,
Are all his pupils and disciples still;
They too will miss him and the spoken word
Which was to them as to us here
A constant help their courage to inspire.
But sadder still it is that he must go
From countless little children here
That he himself had loved so much,
To whom he gave his best
As healer and as friend.
How great a loss his going is to all!
To those who saw him at the bedside,
Gentle, kind, and almost saintlike thus,
Dispensing succor and relief, recalling
Vigor and the glow of health
When death seemed near.
He was so young, and yet
Into one single score of years
He crowded all the work of a long life,
So that it seems he had been with us here
For many a year ere yet his face we knew.
Because of his achievements great
His character and high ideals,
Few had more friends
Than he could count his own;
Few had attained the same renown
When still so young in years.
The trust his colleagues gave was but his due,
In mutual helpfulness he was their guide.
And now he is no more, we say farewell to
Godfrey
Whose name means Peace with God.
But is this parting final after all?
Is he no more because his mortal form
We can no longer see or touch?
Did Johann Huss, the martyr, whom his father
And himself as teacher in religion did accept,
Who gave his life for truth and love
And faith in God and man,
Did he not show that life beyond the grave
is real?
That those who have passed on do never pass
away?
That in God's realm both love and labor
Do continue for all those who served him well
In this our earthly sphere?
May we not ask of him, our Godfrey, now
To send his love and inspiration from on high
That we may live and work as he had done,
That when the call for us shall come
To go where he now dwells.
An echo may be heard of what
So surely is now said of him:
"Well done, thou good and faithful one,
Be blessed and enter thy reward."



ORIGINAL ARTICLES

THE PSYCHOLOGY OF THE DANCE.

BY

B. S. TALMEY, M. D.,
New York City.

*What dire offense from amorous causes springs,
What mighty contests rise from trivial things?*¹
Pope.

The same relation music bears to time, the dance relates to space. Music expresses temporal rhythm, the dance spatial rhythm. The dance tells the eye what music tells the ear. Music represents audible measure, the dance visible measure. The entire universe has been constructed by means of rhythmic motion. "God is identical with rhythm and harmony," says Pythagoras. Nature is full with rhythm and measure. Within the primordial divine cosmic sea of energy where, as the Bible puts it, the divine Spirit moved upon the face of the waters, the electrons, or the minutest quantities of the divine energy, made rhythmic revolutions around certain centrals, then integrated atoms, and formed

molecules of matter. Thus energy incarnated itself into matter, Divine Incarnation. Atoms thus represent sets of revolving electrons. The negative electrons revolve around the positive ones in every atom. The basis of all things in nature is hence rhythmic revolution.

There is rhythm in all cosmic recurrences of the universe. In the astral universe, the planets move around their suns in elliptical orbits, in an exact measure.¹ All celestial bodies show rhythm in their motions. By photographing the stars it has been found that the suns in the milky way circle around a central sun. They dance around her. Every one of the 3,000,000,000 suns move rapidly. Not one absolutely fixed sun has yet been discovered.

On our earth, the sea rises in a certain rhythm. The seasons return in rhythmic regularity. Plant life appears in the spring and dies in the fall to return again in the following spring, in regular rotation. Gen-

¹The present essay is, to be sure, not a mighty "contest" but the cause of its writing was certainly a thing trivial, namely, the casual visit to an entertainment and dance. Spending his week-ends with friends in the country during the summer, the writer was taken by them to dances in several artists' clubs. Unacquainted with the modern dances, he could not participate in the general gayety and remained alone at his table, while his friends were dancing. In this way, it was possible for him to make unusually full observations of the wild emotional motions and of the maddest gyrations the dancers were going thru. The fruit of these observations is the present essay on the psychology of dancing.

¹Our moon dances around our earth in 27.32 days. Saturn revolves around the sun in 29.45 years. The earth revolves around the sun in 365 days, five hours, 38 minutes, and 46 seconds. The ever-moving sidereal bodies execute an eternal dance.

erations pass away and generations return in regular sequence. Rhythm throbs in the air thru the entire earth.

Rhythm is innate in all life and delights especially sentient animal life. Rhythmic revolution has a great influence upon man. Just as man loves music because his own organism as well as the tonal figure are constructed upon the same principle of the golden section, so man delights in visible rhythm because within the atoms, composing his body, the electrons make rhythmical revolutions around a central point. These revolutions within the atoms are the cause for man's innate love for rhythm. Poise and rhythm have become wrought into the very tissue of the human organism. The protoplasm has inherent within it the impulse to rhythmic activity.

To a normal organism activity is pleasant; it offers the most intense delight. Exertion renders its inherent recompense largely thru the exercise of the sense of kinaesthesia, or the feeling of movement. If vision is the queen of the senses, kinaesthesia is the primary and essential sense. The coordination of the distant muscles depends entirely upon the information of the relative tonal and contractual state of the muscles by the way of the kinesthetic sense. The kinesthetic impulse is subconscious. Consciousness cannot explain why the organism prefers certain numerical groups of movements or rhythm.

The human mind has its roots in the kinesthetic sense experiences. Even if pure perception were of necessity prior to sensory experience (Talmey, *AMERICAN MEDICINE*, Oct., 1920, p. 535), still mind represents mostly the integration of the organism's motor responses to stimuli, and every response executed by an organism has a specific temporal and spatial attribute.

All scientific conceptions depend upon the categories of space and time. There is, hence, rhythm in all our bodily functions. By rhythmically influencing the movements of our limbs, we react on the brain, and the body automatically strives to conform to rhythm. Rhythm is thus instinctive in man.

The experience of rhythm is unique. Hence its psychology is still a matter of controversy among thinkers. Rhythm is the process of subjectively accentuating and subordinating the elements of a series, the pauses being the unaccentuated elements. Three forms, two of which are identical, are necessary to arouse the rhythm consciousness. The human mind tends to divide a series of elements into unit groups.

The primary rhythm represents the regular succession of like events, the secondary rhythm is perceived by a certain grouping of the events. Each group is felt as a sort of a whole in comparison with other wholes. The group appears as unit. In poetry, elements and groups are separated by certain pauses and cadences. It is characteristic of man to divide certain repeated events into numerical groups or rhythmical units, these groups being of particular numerical values. In the nature of rhythmic experience it requires a certain amount of periodicity to engender a feeling of rhythm. Two and three and their multiples form rhythmical groupings and are regarded as fundamental rhythms, while five, seven and eleven are considered non-rhythms.

Rhythm is limited to the auditory, visual, kinesthetic and tactual fields of sensations. Both the auditory and visual rhythmic experience seem to be mostly based upon the kinesthetic or motor experience. We perceive the rhythmic grouping in music and poetry by the successive contractions of the

tensor tympany muscle in the middle ear. The visual rhythm is perceived when the eye moves along and keeps meeting the same forms. Thus visual and auditory rhythms are both based upon kinesthetic experience and do not essentially differ from each other. Even when visual rhythm results from stimuli in terms of the difference of color quality, it is still in a certain way kinesthetic in nature.

Now, motion takes place in time; hence time is an essential element, ancillary to rhythm. Every periodical recurrence, present in rhythm, must take place in time. The ultimate basis of all rhythmic experience rests upon a series of definite temporal units, upon a number of shocks and sensations. The motor response found in the performer of the rhythmic act and the objective stimulation in the observer are both periodic in their nature, hence subject to the transcendental time experience.

The original rhythmic motor experiences in time have their roots in the organic rhythms of pulse and respiration. The subjective time unit is the breathing rate. The rhythmic heart beat creates subconscious motion neurograms. But from the rhythmic breathing time is derived the organism's preference of certain groups of muscular activities. Physiologic normal walking, which is rhythmic in nature, also contributes to the producing of the experience of conscious rhythm. The voluntary movements are the elements in conscious rhythm. Consciousness is rhythmically disposed because the whole organism is rhythmically disposed. The movements of the heart, breathing and walking take place rhythmically in time. The walking time may be expressed by the anapest (— — —), or when the tempo is rapid by the iambus (— —). The natural origin of rhythmical perception is

thus based upon the movements of locomotion, or in other words, rhythm stands in a certain relation to space. But our sense of time having been also essentially developed in connection with the movements of locomotion, the phenomena of rhythm must be attacked from the temporal and spatial points of view. The temporal relations are determined by the events of the complex moment, producing the group, while kinesis is essential to the rhythmic grouping.

The tension for the motor response is reflexly started in the muscles by the external stimuli, affecting the senses of hearing and of sight. The impulse comes to tap the hand or move the foot concurrently with the regularly returning stimuli. The test of the motor response is the desire to tap the rhythmic series, to nod it, walk it, sway it. If it is easy for us to tap, to nod, to walk, to sway, the degree of rhythmic excellence is obtained. In syncopation such tapping or nodding is made difficult.

Syncopation is the correlation of two sets of time intervals. The essential part in the phenomenon of syncopation is the tendency to beat a new rhythm, while the primary rhythm is still going on. In the syncopating rhythms of Indian music there are two levels of rhythmic stimulation. In the negro dance there are even three levels of rhythmic experience—the rhythm of the dance, representing the primary rhythm, the patting hand, representing the second rhythm, and the foot beats expressing the third rhythm. The contortions of the polar bear represent the syncopation of muscular responses.¹ Walking in hemiplegia with one leg dragging represents a certain syn-

¹ The parrot cockatoo can beat simultaneously in four different rhythms, with five to 11 beats to the measure, which ought to excite the envy of the rag-time musicians and of all the jazz dancers.

copation. The paralyzed man walks psychologically in a two-rhythm, while the normal man walks rhythmically.

General rhythm marks all the physical and spiritual manifestations of life. There is rhythm in all body movements. All functions work in rhythm, the cyclic actions occurring in a rhythmic series. The structural arrangement of matter is in harmony with rhythm. We are, hence, rhythmical in our life habits. Rhythm underlies all art. Rhythm forms the basis of music, poetry, representative art and dancing.

Dancing as an art is comparatively a modern institution, but the simple, the natural dance is as old as time. Man danced millions of years before the dawn of history. The animal world danced before him. The animal's activity in life being taken up by two impulses, the impulse of the preservation of the individual and the impulse of the preservation of the species, or by hunger and sex, the dance naturally stands in the service of these two impulses. The rhythmic movements and contractions of the amœba stand in the service of hunger. In the higher animals the dance stands almost exclusively in the service of sex. Its object is to produce a state of tumescence. Peckham (cited by Ellis, *Psych. of Sex*, p. 35) counted one hundred and eleven circles, made by the ardent male of *Saitis Pulex* around his female. The gold pheasant circles continually for hours around his female in his erotic wooing dance. Ostriches have a strange habit of motion, known as "weltzing," when wooing the hen. The cock in the barn yard circles around the hen, spreading one wing with his outstretched leg and showing off his antics. The syncopating motions of the polar bear, executed with his head and limbs, may also stand in some relation to the erotic call of

the animal when at liberty among his ice fields. The elephant executes a kind of dance by walking certain regular measured steps on the same spot, in his case, as he has done in the Indian wilds while wooing his mate. The fall of the "chirp, chirp" in the insect's call measures off time and creates rhythm. The guinea hen's "cackle, cackle" is in the iambic form (—). The glow-worm celebrates every measure with a glow of light. The flashing of the firefly is synchronous.

Infancy, representing the anthropoid stage in the evolution of man, is full of rhythm and dance. The infant hops and dances in his mother's arms when a march is played, and the mother rocks her infant because regular motions are required by our own organism. We are rhythmic because the physical man demands it. All primitive men have their dances. The rhythmic movements found among all primitive peoples and in all civilizations have crystallized into the dance. The dance is first instinctive, later on it is studied, and it becomes art after it begins to obey certain rules.

With the entrance of history the dance has reached a certain stage of development. We first meet it mainly in religious dances. The savage dances his religion. He does not pray to his god, he dances to him. Fitting dances are prescribed for all solemn occasions—childbirths, bridal, funerals, seed time, harvest, war and peace dances. The sacred dances are the most ancient chorographic forms.

In Egypt at the consecration of the new Apis, the priests, dressed in splendid robes, danced around the altar, representing Osiris' mysterious birth, the amusements of his infancy, and his loves with the goddess Isis. At the death of the Apis, the priests

executed funeral dances all the time till a new Apis was found. Then dances of rejoicing were executed, as if Osiris himself had appeared. The priests danced around the altar, representing the sun, and the dance expressed the zodiac and the movements of the stars. The Assyrians had dances in honor of Baal, Astarte and Adonis. The Phœnician patera consisted in dancing around the sun emblem in the temple.

Among the Jews, sacred dances to the Supreme Being were executed in praise of God for some saving delivery of the people. We first meet with these religious dances (Exod. XV. 20) in Miriam and the women who went out after her with timbrels and with dances. Again we find the Israelites dancing around the golden calf (Exod. XXXII. 19). Jephtha's daughter comes out to meet her father with timbrels and with dances (Judges XI. 34). When the ark of the Lord came into the city of David, the king leaped and danced before the Lord (II. Sam. VI. 16). In the Psalm (CXLIX. 3) the poet recommends Israel to praise the Lord's name in dance. Praise Him with timbrel and dance (CL. 4). The Benjamites caught their wives among the daughters of Shiloh, who came out to dance in dances among the vineyards, at the feast of the Lord (Judges XXI. 21). Josephus (Liber XII.) narrates that the Maccabeans established a festival where dances were executed in praise of the Lord.

The Greeks executed religious dances around the altars and images of their gods. No religious festival was celebrated without dances. The Greek dances were also imitations of the motions of the stars like those of the Egyptians. The Greek funeral dance expressed dignity, sorrow, mystery and reverence. The choric odes of the an-

cient Greeks treated of life and death, of love and friendship, etc. The dance of Hymen on the shield of Achilles ends in the final jubilation of the wedding (Iliad XVIII. 490). Orpheus is supposed to have brought the religious dances from Egypt. Some of the dances imitated the gestures of the gods and the extraordinary deeds of the demigods and heroes, such as the escape of Theseus from the labyrinth, Orestes' persecutions by the furies, the love affairs of Leda and Danae with Jupiter, or of Venus and Mars. In the dance of the Phæcians (Odyssea VIII. 265) the entire intrigue of Mars and Venus and their punishment by the deceived husband Vulcan is expressed by a dance while the singer recites the story in his song. These love dances form the transition from the religious dances to profane chorography. Venus was supposed to have taught the young people the love dance, which at a later period was danced by both sexes together, such as the dance "geranos." The Bacchantes are said to have instituted the first lascivious dances.

Rome also had her religious dances. The dance of the Salier with the magister saliorum was in honor of the Deity. Later on the Romans received licentious dances from the Etruscans as depicted on the Etruscan vases. Such lascivious dances were an outgrowth of the love dance. Isaiah (III. 16) preaches already against lascivious profane dances. Job describes the prosperity of the wicked: "Their children dance. They take the timbrel and harp and rejoice at the sound of the organ." Among the Jews the ordinary love dances were executed by the young girls among themselves, as described in the Talmud (Thanith 31). "The daughters of Israel went out on the fifteenth of Ab to the vineyards and danced,

by the accompaniment of songs, challenging the young men to marriage.¹ The beautiful girls sang: 'Young men turn your eyes upon beauty, for the woman's province is to beautify life.' The girls of the nobility sang: 'Turn your eyes, young man, upon noble descent, for the woman has been created to be the mother of noble children.' The plain girls sang: 'Make your sale as commanded by the Lord.'"

In ancient Rome the profane dances were carried out more with the body, vibratory and rotatory movements of breasts and flanks. The whole body expressed the emotion, not unsimilar to the dance of the nautch girl in the Hindu temple where practically all the muscles of the body function in the dance as described by Jacoliot (*Les mœurs et les femmes*, p. 276). "The nautch girl's dance is palpitating of passion and frenetic temptation. She excites herself by degrees, her waist trembles over her hips, her neck reverberates, all her muscles are in a universal tremor, her body cambers under the material excitation of a frenetic ecstasy. At times she moves away curved, the hair spread over her nude shoulders, crouching over the matting of the drawing room, writhing her limbs as a lascivious cat, darting at the onlookers of the dance her large, black eyes with a lightening full of fire. At times she directs her yearning eyes towards heaven as an inspired virgin in the splendid pose of invocation and ardor. At times she is a raving maniac in delirium, fainting away under mysterious delights. Then follow suddenly the most seductive, the mellowest, and most

attractive and inciting inflexions of the body, remaining for certain moments in positions to show to greater advantage the arching of her hip and the suppleness of her waist and its movements." Still these lascivious dances are religious dances. The Hindu dancing girls are married to their gods. The divinity is honored by these god-brides' measured cadences. Similar profane lascivious dances were executed in ancient Rome.

Among the early Christians the dance was also a sign of adoration. In every church there was an elevated place called the chorus, where the priests executed dances in honor of Christ. By degrees church dancing fell into disuse. In the 15th and 16th centuries church dances had disappeared almost entirely and the only solemn dances left were the folk dances.

The folk dance expresses man's history, the chase, the hunt, the sowing of grain in the spring, reaping in the fall, the different trades. It thus gives an epitome of man's neuromuscular history. Folk dancing utilizes the finer accessory muscles, it coordinates the muscles with the nervous system. In strong emotions man cannot remain quiet, and the dance is the best outlet for such excitement. The autointoxication of rapturous movement is an appropriate safety valve for the immense ardor of great emotions. The dance is also the means of transmitting to man's motor nervous system the impulse toward actions. Abulia, or absence of volition, is impossible in the dancer. The neuromuscular coordination of the dance thus has a great pedagogic value.

The dance was considered as a social discipline. Hence, with the disappearance of religious dancing in the churches, profane folk dancing came in vogue. At the

¹ Here, for the first time, we meet the dance in the service of matrimonial match-making, which function it has not given up to the present day. The dance is still the best and most efficient match-maker. Hence, if for no other, for this reason alone, the dance deserves to be cultivated with the greatest care.

outset the folk dance consisted in movements in imitation of agricultural pursuits, of plowing, sowing, reaping, treading of grapes, threshing of grains. Later on, the different trades were told as stories in art form. Every guild, every craft formed organizations for the execution of certain dances.¹ These dances were performed at festivals by the young members of the craft in imitation of their own occupations. Events in prominent families, weddings, births, deaths, birthdays, were also celebrated by these craft dances.

Parallel with the devotional or religious dances, and later on with the guild dances, were performed the emotional and particularly the love dances. In the early stages the dances were performed by one person. David danced alone before the ark, Salome danced alone before Herod. Later on, several persons danced together, but the sexes did not mix. Each sex danced its own peculiar dances. In the emotional dances, the two sexes united in the execution of the interpretative dances of the fundamental emotions, such as joy and sadness, defeat and triumph, love and hatred, etc. Especially did these mixed dances of the two sexes illustrate forms of attack and defense, of pursuing and overcoming, in the play of courting. It was not a gross sexual pantomime, but a representation of the chase in wooing. The Tyrolian Schuhplattler, *e. g.*, represents the romance of such wooing. The female dances around the male at a certain distance from him, while he is showing off his antics by clapping his hands on his thighs and hips, and by striking against his elbows at a particular cadence. It is a seeking and fleeing, skulking and shunning, ending in the male catching the

female and swinging her high in the air to show his conquest. Then comes the caressing wedding waltz. The Italian Tarantella, the Polish Cachucha, the Hungarian Zardas, are all symbolizing the erotic act of wooing. The love dances of the Orient, such as the *danse du ventre* of the peoples of northern Africa, are gross imitations of eroticism. The woman rotates her pelvis backward and forward and the man thrusts his entire body forward. The seasonable ritual festivals among the Tahitians are celebrated by dances of a generative character, consisting of suggestive motions and wanton gestures. In the Hula-Hula dance in Hawaii, the woman executes the obscenest motions with her pelvis. In the Kaffir's dance every part of the body is being put into motion at the same time, the head, the trunk, the arms, the hands, the legs, the feet.

In the civilized western countries, especially among the urban populations, the dances for generations expressed emotions consistent with modern life. These dances served as the fittest outlet for such emotions. They were soothing and beneficent to high-strung nerves, affording the most serviceable form of exercise. Especially upon the woman, the dances had a hygienic and at the same time fascinating influence. The dance being an exceedingly complex act involving constant readjustment, it contributed to the wholesome development of her nervous system. The dance being the natural expression of joyous emotion, it gave the woman more pleasure than any other kind of motion. The sensation of all kinds of motion evokes pleasure, hence the love of the rocking cradle, of the swinging hammock, of the flying horses, of skating, rowing, coasting, and of rotating rapidly on their feet until dizziness results, as often met with in children. In dancing, the ex-

¹ The Scheffler Tanz executed in Munich every seventh year is a remnant of such craft dances.

citation is general; it touches every vital organ. By the way of identification, if the onlooker is in a state of appetite, he will experience pleasure at the mere witnessing of rhythmic movements, such as the ballet.

Even the erotic wooing dance, running thru the gamut of love, adventure, defeat, sacrifice, redemption, was seldom danced to satisfy an erotic need; married couples often danced whole nights for the mere love of rhythmic motion. Artistic dancing may arouse the highest and deepest feelings. The dance is able to draw us out of everyday life and to lead us to a dream world, where we can escape for a moment the thought of our frail mortality, of the prospect of annihilation. The will-to-live induces us to cling with eagerness to the perpetual motion of the dance as an image of our eternal continuance and the negation of the inevitable dissolution. We dance to forget, as we take opium for the sake of oblivion. The dance is an artificial paradise.

The round dance which followed craft dancing had a great social significance. It contributed to the decline and decay of the elaborate complicated dances in courts of nobles and kings. It removed the difference between the folk dance and the salon dance. Now everybody dances. There is no more an onlooker and performer as in the ballet. The dance is no more a show, it is a social pleasure. At the same time, it has the great social value of bringing couples together who would never have the opportunity of such a close acquaintance. The dance is the best matrimonial agency, says Masson (*Révue Mondiale*, p. 403, V. 136, 1920). The dance is a muscular flirt. The couples seem to look out indefatigably for the endosmose of love, two beings fused into one.

The round dances were simple and state-

ly. They represented a rhythmic series of motions expressive of emotions, even the final triumph of the act of wooing, symbolized by the jubilant embrace of the waltz,¹ was not expressed by a too close physical contact between the dancers, but by curves and lines of grace and beauty. In polite

¹The same cry as it is being raised against the modern dances by a meddlesome group of reformers has been raised against the waltz, *e. g.*, Abbe Gauthier in his treatise (*Traité contre les danses*, 1769). The puritanical zealots declared the waltz to be a dance originated in hell and invented by Satan to corrupt the human race. The idea of a strange man placing his arm around a woman's waist was unheard of. The fanatical bigots knew, or at least, divined, that the woman's waist region, between the rim of the pelvis and the lower rim of the thorax, is one of the erogenous points of her anatomy, altho they were entirely ignorant of the "why."

With the exception of a few select, humanity goes thru life almost blindfolded, and even the few whose observational power is exceptionally very keen, do not know the why of their observations. Every observing mother, *e. g.*, knows that the strength of her young infant's grasp is out of all proportion to the general weakness of his little frail body. The reason for this phenomenon is that the baby represents the anthropoid stage in the evolution of the race, when man's ancestor swung himself from branch to branch, from tree to tree, by the mere strength of his arm and by the strong grasp of his hand.

The nurse knows that an infant may lie comfortably on his back in the cradle and still cry for hours, but will quiet down the moment she takes the baby on her arm. Why? Because, on her arm the infant is actually sitting in his natural position, in the same position his ancestor was sitting on the bough of the tree in the primeval tropical forest generations ago. In both cases the infant's behavior is due to an inheritance from the anthropoid stage.

In the same way the erogenous nature of the female waist-zone owes its significance to the mnemonic representation of stimuli, received by the ancestress in a much older period, during the quadruped stage of the evolution of the race. The quadruped embraces and holds fast his female with his fore limbs above the pelvic rim. This rim represents the waist-line in man, in his erect position. The erogenous nature of the female's waist segment is sex determined by transmission from the remotest antiquity, from a much older stage than that during which the infant received his stimuli.

All these things were unknown to the bigots, but they did know of the erogenous nature of the female waist segment, hence they raised a tremendous cry against the waltz and the other round dances.

society the man scarcely touched the woman's back with his gloved hand, and the other hand scarcely touched her gloved hand. The two dancers moved around almost disconnected. Such dancing was graceful and pleasing to watch. It had no suggestive effect upon performer or onlooker, just as the pantomime square dance had upon the normal observer and dancer a chaste effect of purity. All these dances of a generation ago represented beauty in visible form.

All this changed with the appearance of the modern dance. The modern dance copies the oriental dances and represents, not wooing and love, but gross sexuality. The former love dance was imitative, symbolic, emotional, and artistic. It expressed eroticism transformed into rhythm of courting, hesitating, promising, and yielding. It represented the harmonious blending of sound and movement. The dance was the symbolic language of love. The music showed coherency and uniformity. Nowadays a symbolism of dancing does not exist any longer. The modern dance is no longer the poetry of motion. It is a gross presentation, not imitation, of the coitional motions. In the old dances, estheticism was the ruling motive, the modern dance represents an appeal to the lower instincts.

The music for the old dances showed a perfect rhythm. The six-step waltz shows a neuromuscular coordination of the highest order. The rhythm of this quiet, sedate dance is the most ideal imaginable. Its cadenced rhythms follow the rules of the accentual rhythms of the classic systems of scansion. It begins with an iambic or anapest and ends with a dactyl or spondee, the last step of the first figure forming at the same time the first step of the following

figure. In this way all figures coalesce into one whole. The Rhinlander, a pure pantomimic representation of courting, begins with a spondee and ends with four repeated trochees. Here we can truly speak of the poetry of the dance. Here the dance represents a genuine phase of art expression.

The modern dance does not embody any longer a specific art form. Its syncopating rag-time music is reminiscent of savage music. There is a double and even triple rhythm going thru the musical air. Hence, the couples dance often in different rhythms, and the crowd resembles more of an ant hill in its motions. The constant reiterated rhythm of the musical air is only interrupted by the curious cacophonies and clanging discords of the jazz bands, which expresses the intense explosive feeling of the soul.

To the strains of these exotic tunes, especially selected to overwork the nervous system, to the rhythm of this weird oriental note, to this languorous seductive music, the nubles of both sexes execute ecstatic, lascivious, erotic pantomimes, which rival in their representation with the dangerous frivolities of the *danse du ventre*. Stretched in dreamy poses, wrapped in each other's arms as closely as possible, representing a fancy hugging set to music, the couples glide into dances of alluring motion. They do not dance with their feet only, as in the old esthetic dancing, but they dance all over. They wriggle, swim, whirl, embrace, bounce, canter, glide, and execute jumping movements and sensuous jerks and twists, involving the trunk, the pelvis, legs, and arms, in short, every part of their bodies.

In the different dances, such as the shimmy, the jazz, the choppy, the turkey-trot, the tango, maxis, hesitation, etc., the swaying of the bodies of the dancers, the lateral

swinging of their trunks, the convulsive agitations and quiverings from head to foot, the tugging, twisting, pulling—all these movements are executed in imitation of coitional motions. The suggestive gesticulations, the flexible movements, the bewitching attitudes, the voluptuous curves, the gentle oscillations of the body—they all tell the same sex story. The couples dance often on the same spot or move imperceptibly slow—they retard with hesitation. There is only a twinkling of the feet. The dance is executed by the body and the upper limbs only. The dancers gesticulate with head, arms and hands. The shoulders execute fantastic quivering gyrations. The trunk goes thru a series of rhythmic contortions, and the lascivious undulations of the flanks and rump, the protrusions of the abdominal parts, and their swaying to and fro, cannot be misconstrued even by the tyro. The large movements of the legs, entangled and shuffled between the two dancers, are truly masturbatic.¹ For this reason, by the process of identification,

¹ It is usual for the music of the modern dances to stop several times during the one and the same dance. The couples release their holds upon each other but do not seek their seats. They applaud and the same dance begins again. At one of such pauses the writer, watching the dance, as mentioned above, had the opportunity of observing the antics of an apparently hyperesthetic girl. Instead of releasing her neck-hold around her partner, she seized his shoulder with the other hand and effected a closer contact even than was possible during the dance. In this attitude of ecstasy, almost lying upon her partner, contorting herself as tho in a passionate embrace, she continued to execute all the wriggling motions of shoulders, loins, and rump, as in the actual dance until a manifest thrill, an orgasmic convulsive tremor went thru her entire body. After the erotic spasm, she let herself be led to one of the tables, where she showed all the phenomena of erotic exhaustion, such as relaxed muscles, shallow breathing, and all the other signs of an experienced orgasm.

One such observation is of more value for the proper estimation of the modern dance than dozens of questionnaires sent out to the dancers and to their observers. For one reason or other, you cannot get the truth from the dancers,

even the observer may effect tumescence, by the mere intent watching of the erotic dance.

The modern dance is, therefore, no longer a preliminary to courtship, but a substitute of the normal gratification of the erotic impulse. It is no longer a sublimation of the sex ardor, but it is a mode of attaining contraction and detumescence with those who cannot satisfy these impulses in the normal way. The dancing mania is hence mostly met with in the summer resorts among the women of the middle class. In our over-sexed age, with its satyric men and nymphomaniac women, the modern dance serves to attain complete detumescence. The modern dance does not represent the primitive expression of love, nor is it an erotic bait, but it is consciously danced for the purpose of attaining orgasmic satisfaction.

From the moral point of view, therefore, the affective experiences in the modern dance would seem to demand the declaration of a strict taboo against such dances. Still, out of hygienic considerations, the very affective experiences do recommend the modern dance as the best means of preserving the health of our young people in our modern mode of life. In the interest of hygiene, the modern dance ought not to be decried as lewd and indecent and an inciter of gross sexual feelings, as is done by the ignorant, tho well-meaning, reformer. On the contrary, the enthusiasm for dancing ought to be encouraged and fostered as an outlet for sexual tension.

The cry about the modern dancing fad being a psychic outbreak of the pent-up repressed sex emotions has been raised by the ignorant reformers who see in the obsession of the dance a work of Satan, engendered in the lowest regions of Hades.

This agitation against the dance shows that the best intended reforms can do the greatest harm. Granted that the dancing epidemic which started in this country about 1912 was tinged with sex at that time, and has reached its acme after the World War as an outlet of the repressed emotions of the nubile of both sexes, such an outlet is surely a desirable thing. To paraphrase St. Paul (Corinth. 7), it would be better for man if his gross erotic emotions would be aroused for the first time in the bridal chamber. But this is not so. In the modern large city, with female suggestive semi-nudity constantly thrust into the eyes of both sexes,¹ emotions are aroused at an early age, when conventional marriage is entirely out of the question. These emotions have to be repressed and, as every psychologist, without being necessarily a Freudian votary, well knows, repressed emotions engender conflicts between the educational ideal of civilized sex morality and the impulsive urge. These conflicts are the subsoil for an entire army of neuroses. The only safety valve for the repressed emotions is either solitary autoeroticism, promiscuity, and the dance, and the latter is the least harmful of the three.

Autoeroticism shows three unhygienic features. The opportunity for its practice is ubiquitous and not limited in time. Hence, the exercise is not seldom practiced to excess, and such excesses are the cause

of impaired virility in men and of frigidity in women. Another feature of autoeroticism, antisocial in nature, is the fancies which accompany autoerotic gratification. These fancies endow the ideational partner with perfections seldom or never met with in reality. The disillusion that is bound to come later in marriage unfits the individual for ideal married life. The destruction of the illusion weakens and diminishes the man's virility and creates in woman the retarded orgasm. Last, but not least, autoeroticism does not entirely do away with abnormal conflicts. Solitary autoeroticism does not accord with the ideal demands of civilized sex morality, hence does not entirely save the youth of both sexes from the conflict between their impulses and the educational ideals. This conflict has an exceedingly deleterious effect upon the individual's psyche and is a source of many a neurosis.

All these three features are more or less absent in the erotic gratification of the dance. The danger of overindulgence is less lurking in the dance. Where the services of another person are required there is a certain restraint set upon excesses. You cannot dance everywhere and all the time. Furthermore, you need a partner, and a live one. The ideational partner in the solitary autoerotic practices is of no use in the dance. Here the partner must be and is a living reality, not the creation of an overwrought fantasy. The harmful conflict is also absent in the relief obtained during the dance. As long as the reformers, moaning over the evils in the present dances, as long as the decriers of the modern dance have not succeeded to create a taboo against it, the dance represents a sort of compliance with the demands of civilized society. No parents would allow their daughter to be hugged by a strange man in their parlor,

¹ Self-conceit makes men think that female semi-nudity has been invented for their stimulation. The fact is, that woman is more erotically stimulated by another woman's nudity than by a nude man, who seldom makes any impression upon her (Talmey, Love, p. 307). She finds gratification when looking at another woman's nudity by the identification of herself with the nude sister (Talmey, Love, p. 224). Hence the modern feminine clothes overstimulate, not only the men, but even more so the women, and both need a proper outlet for the overwrought erotic emotions.

as she is hugged by the neck-hold, cheek-to-cheek, tight waist-hold, and the so-called knee-press in the dancing-room to the exotic strains of music, in the presence of a crowd of onlookers. The dance has the approval of parents, friends and society-at-large, and no psychic conflict is ever created by an approved act. The modern dance, therefore, tho autoerotic in character, is less harmful than solitary autoeroticism.

The relief of repressed erotic emotions by promiscuity is certainly less desirable than the dance. Even the most fanatic radical and varietist should admit that. Promiscuity creates a kind of blood-chaos in the female (Talmey, *AMER. MED.*, July, 1917); she becomes the mother of a semi-hybrid progeny. The doubt promiscuity throws upon fatherhood absolves the man of taking care of his children. Hence, promiscuity is antisocial. General promiscuity is bound, all the contraceptives recommended by the fanatic preachers of birth-control to the contrary notwithstanding, to increase the number of accidental impregnations, and such an accident, in the present stage of economic determinism, makes a tragedy of the life of the young woman and not seldom even blackens the future of the man, especially if the female victim be of the same social class. The relief the man may find in the society of meretricious venery is often too dearly paid for. The price is not seldom the gonococcus and the spirocheta pallida. Promiscuity thus leads to the degradation of youth, to the breaking up of families, to spread of corruption, to injuring of health, and to favoring the development of venereal diseases, the greatest evil of modern life. Promiscuity is, therefore, no remedy for the repressed erotic emotions for man or woman.

The modern dance, which has set moral-

izers and reformers gnashing their teeth at the menace of this dancing performance, is hence the least harmful substitute for the normal gratification of the erotic urge. If it serves the youth of both sexes as a safety valve for repressed erotic tension, such an attainment of detumescence is a better substitute than promiscuity or solitary autoeroticism. There may be excesses in the gratification thru the dance just as there are excesses within the gates of matrimony. All excesses of whichever nature are not harmless and ought to be avoided.

But the justification of the modern erotic dance holds good only for the nubile of both sexes who are otherwise suffering from the result of repression. For the very young, between puberty and nubility, the premature awakening of amorous enjoyment thru the passionate embrace in the modern dance, or for married couples with their absence of repression, the overstimulation by these dances and the resulting excesses are wrought with great dangers. The young who are not yet afflicted with repressed emotions and the married who have no need of repression should better look for the gratification and enjoyment found in rhythmic motion in the old-fashioned, simple and sedate waltz which is free from all the tumultuous ecstatic motions, as met in the modern dance.

171 West 126th Street.

Gasoline for Removing Adhesive Plaster.—A correspondent of the *Journal of the American Medical Association* recommends the use of gasoline to remove adhesive plaster. A drop of gasoline from a medicine dropper inserted under a corner of the strip will loosen an inch or more and the process is repeated as long as is necessary. A small gauze sponge can be used if desired.

CALCIUM METABOLISM.¹

Also the Role of the Endocrine Glands in Dental Formation and Deformation.

BY

J. MADISON TAYLOR, A. B., M. D.,

Philadelphia, Pa.

Professor of Physical Therapeutics and Dietetics, Medical Department, Temple University.

To be aware of what we do not know and to estimate our own shortcomings with a due sense of proportion, to state these omissions with logic and candor, is in any stage of scientific evolution as important as isolated discoveries. Not only so, but those discoveries are of greatest utility which make for the achievement of a right conception of the brilliant findings of others. These may, however, stand so far apart, may be so involved in less essential details that they fail to fuse into the scheme of logically related facts. The greatest possibilities in the realm of discoveries, then, are those which put into our hands unerring laws of action, or conduct, or thought, and the foundations of which are solidly established scientific facts.

The first thing demanded of any clinician is to learn not alone whether the patient presents a well-defined picture of functional derangement, of infection or malignant disease or their effects, but also to determine to what extent our remedies are able to antagonize morbid agencies. Every wise practitioner unconsciously formulates such laws in his mind as he has evolved them from his own experience. He uses the classic or current rules for general

diagnosis and the action of remedies or procedures, but none is more vividly conscious than he, nowadays, that his cherished rules frequently conflict with his own observations and do not harmonize with logical reasonings.

He is confronted by two sources of confusion: (1) The misleading influence of those who, working within the narrow field of laboratory work, make dogmatic statements which threaten the integrity of well-established beliefs, leaving him high and dry on the shores of doubt; and (2) the exploitation of profoundly abstruse and complex diagnostic methods and forms of treatment of such extreme specialization in technic that he, the practitioner, can make little use of them.

As far back as 1903, I urged the importance of the labors of a man whose purpose was to place medicine as a whole on a basis more compatible with modern science by eliminating the uncertain and dogmatic and also where possible, the empirical use of drugs. Hardly one month ago, it was my privilege and pleasure to hear one of the greatest teachers of the United States, Prof. Llewellys F. Barker, of Johns Hopkins University, refer to Philadelphia as the center of thought concerning the ductless glands because Dr. Sajous lived in that city.

It is to his *analytic* work, Sajous testifies, that he owed his discovery that the underlying cause of the existing confusion in medicine was due to the prevailing lack of knowledge concerning the functions of the ductless glands; it was his *synthetic* work which led him to the discovery of the true rôle of these organs in the body. As soon as these functions had been established by him, *hundreds* of problems, ninety-six of which he enumerates in the

¹Read before the Pennsylvania Association of Dental Surgeons, Philadelphia, January 11, 1921.

introduction to his second volume, now in its ninth edition, were solved. Any one of these discoveries would qualify him to earn the gratitude of posterity. Thus he was able to offer a ready solution to the experimental results of a multitude of investigators which thus fell into line, as it were, of their own accord. Pulmonary and tissue respiration, absorption and nutrition, the circulation of the nervous system (Harvey having discovered that of the larger vessels and Malpighi that of the capillaries), the nature of organic function and the manner in which it is awakened by vasodilator nerves, the composition of ferments, the physiologic and morbid production of sleep, etc., are but a few of the many problems which physiologists had admittedly failed to solve. This is well illustrated by Osler's remark that while we know little concerning the action of drugs, "we put them into bodies, the action of which we know less."

Recently Sajous showed in this connection, in his presidential address before the American Therapeutic Society, that such a state of things need no longer prevail. As far back as 1903 he had demonstrated that the ductless glands as a group constituted the mechanism thru which the body defended itself against disease, and that those of our remedies which were positively curative (other than those such as quinine and anthelmintics, which directly kill a parasite or germ) did so thru the agency of the ductless glands which combine to supply the immunizing substances. Experience has, in many respects, so directly confirmed Sajous' views that the *London Lancet*, editorially recommends in a recent issue that they should form the basis of teaching of therapeutics in that great center of learning.

How does all this bear upon the subject of dental physiology and pathology? The significance of this fact is great, that in order to understand calcium metabolism it is necessary to know the functions of the ductless glands as Dr. Sajous interprets them. I specify his views because, unlike those of many other workers in the same line, they have withstood the test of time and have been confirmed independently by manifold other workers both in research and in practice. These regulative glands prove of particular interest in the present connection. They consist of the adrenals, two small organs overlying the kidneys, the thyroid, overlying the thyroid cartilage in the neck, and the thymus, immediately below the thyroid, between the sternum and the trachea.

ADRENALS.

Sajous found that these organs supply a secretion which passes to the lungs and takes up therein the oxygen of the air. This solves the cardinal problem of human functions, namely, that of pulmonary respiration. Physiologists had also heretofore failed to discover the identity of 94 per cent. of the hemoglobin molecule. This, likewise, proved to be the oxygenized adrenal secretion. The nature and the source of an oxidizing substance found in the blood, *viz.*, oxidase, had also remained undetermined. Sajous found that this substance, the (albuminous) 94 per cent. of hemoglobin, and the oxygenized adrenal secretion were one and the same; that all tissues contain it; also that it was this substance which supplies the tissues with oxygen. This contention has since been abundantly confirmed.

Briefly we now know, thru Sajous' discovery, how the venous blood becomes converted into arterial blood.

THYROID GLAND.

As is now well known to all physicians, thyroid extract given to a cretin or an idiotic child in whom the functions of the thyroid gland are deficient, brings about wonderful changes for the better. The body soon begins to grow, all the functions are remarkably stimulated, and the brain, practically inactive before, assumes its physiologic rôle as the organ of thought. What amounts then to a mere "human plant" becomes finally transformed into a normal child, and remains such, but only so long as thyroid extract is administered to it, since it cannot secrete enough for its own needs. Now, thyroid extract has long been known to enhance actively the body's metabolism, the complex modalities of biochemical processes.

The thyroid gland was also found by Sajous to be the source of a substance which has been receiving considerable attention of late—Wright's "opsonin," known to sensitize bacteria and render them vulnerable to the attacks of phagocytes—those white cells or leucocytes of the blood and lymph which act as the body's scavengers and do so much to protect it against infectious diseases.

This connection between the thyroid and immunity has been confirmed twice at the Pasteur Institute of Paris and likewise in Belgium and Italy.

THE PARATHYROIDS.

Closely associated functionally with the thyroid, and forming part of their structure, are found pea-like glandules, the parathyroids. Not only are these small organs participants in the defensive functions just described, but they also take part in a function of direct importance in the present connection, also discovered by an American

investigator, G. A. MacCallum, *i. e.*, calcium assimilation. Thus a local disorder of the parathyroids which alters their structure, such as fibrosis, is known to produce a bone disease, osteomalacia, for instance. It is further determined that removal of the parathyroids tends to check repair of disease in bones. Yet we know that calcium is combined with a phosphorus compound in the formation of bone, including of course, the teeth. How is this phosphorus supplied? By the thymus gland.

THE THYMUS GLAND.

From Sajous' viewpoint, also confirmed in various ways since he formulated his opinion in 1903, phosphorus supply is the function of another organ, the thymus, also classed among the endocrines, but the fact is, it is not a secreting gland. The thymus produces small, white cells which he termed "thymocytes," whose function is to supply nucleins, which are known to contain 4 per cent. of phosphorus in organic combination, so constituted as to be appropriated in particular by the osseous and nervous systems, and in combination with calcium brings about the formation of bone. As the thymus is most active up to the sixteenth year, when it begins to atrophy, it is essentially an organ doing duty thruout the period of development, during infancy, childhood and adolescence. If from any cause local lesions arise during an active febrile process, such as the many infections to which children are so liable, or as in precocious involution, a part or all of its functional efficiency is impaired, then we have deficiencies or defects of development of the bones, deformities suggesting rickets, retardations in growth or stature or muscle competence with often mental backwardness, all associated with poorly developed dentures or anomalies of the teeth.

In considering calcium metabolism, therefore, three fundamental organs must be taken into account: (1) The adrenals, which govern oxygenation; (2) the thyroid, which acting in combination with the adrenals materially influences metabolism; (3) the parathyroids, which glands form part of the thyroid mechanism and influence calcium metabolism, particularly that of all osseous tissues; (4) the thymus, which supplies the phosphorus which with calcium forms the calcium phosphates of these osseous structures.

How may we recognize inadequacies of these various organs, to ascertain the origin perhaps of dental defects or disorders? Summarized, they may be classified as follows:

ADRENAL DEFICIENCY.

As we are dealing here with defective oxygenation we observe (1) muscular weakness and emaciation, pallor, deficient hair growth, sensitiveness to cold, subnormal temperature, all due to deficient tissue oxidation and recession of the blood mass into the splanchnic area; (2) weak action and pulse, low blood pressure, and constipation due to deficient peristalsis, the result in turn of torpor of the intestinal muscular layer; (3) pigmentation, sometimes limited to bronze colored areas on the face and back of the hands, and also large freckles; (4) mental torpor, slow intellection, or even idiocy where the adrenal deficiency is initiated *in utero*. The outstanding phenomenon of old age, especially of premature senility, is hypoadrenia.

THYROID DEFICIENCY.

Here slowed metabolism produces subnormal temperature, cold extremities due to defective oxidation and metabolism, the

thyroid in health collaborating actively with the adrenals and thymus—before puberty only as to the thymus—in sustaining this process, showing also a tendency to obesity; (2) a doughy, dry skin, with at times cervical or axillary fat pads due to local plas-matic infiltration and circulatory torpor; also in very marked cases, a scaly skin and dry, brittle hair and nails due to deficient nutrition of these structures; (3) mental torpor or deficiency is present where true thyroid stigmata are discernible. For complete development of the brain there is required perfect coordination of the thyroid, adrenal and thymic functions.

PARATHYROID DEFICIENCY.

The parathyroid being merged in with the thyroid, deficiency of these organs is manifested by deficient metabolism. But since this thyroparathyroid inadequacy bears mainly upon calcium metabolism and thus affects the nervous system and muscles, there is a tendency to twitching, hyperexcitability and, in severe diseases or where destructive changes occur in these small organs, or when the entire thyroid, which contains them is removed, there ensues tetany.

THYMUS DEFICIENCY.

The thymus supplying, as it does, the phosphorus necessary for the development of bone it must function adequately. If there is deficient development of the osseous system and of the epiphyses, there result deformations suggesting rickets or osteomalacia. This is due to inadequate assimilation of calcium owing to the deficiency of thymic nucleins which plays a major part in the building up of calcium phosphate, and the termination is undersized or asymmetrical stature; (2) deficient

mental development due chiefly to the insufficient production of thymic nucleins to supply the neurons of the central nervous system during its developmental phases; (3) a low relative lymphocyte count is an evidence of the inadequate formation of these cells by the thymus.

A peculiarity of those individuals in whom deficiency of any of the ductless glands is pronounced is their vulnerability to infection of any sort. This again emphasizes Sajous' dictum that while these organs sustain the life process they also serve to protect life.

1504 Pine St.

THE ORBITAL CARDIAC MURMUR.

BY

A. E. VIPOND, M. D.,

Senior Physician to the Children's Hospital,
Montreal, Canada.

Some time ago I was consulted by the mother of a young girl of 14 years of age, who suffered from very marked type of Graves' disease. All of the cardiac signs and symptoms were present. There were murmurs all over the cardiac area as well as in the carotid arteries; a marked murmur was also heard in the abdominal aorta and in the femoral arteries. Exophthalmos was well marked and on placing my stethoscope over the closed eye I detected the same systolic murmur which was met with in the other areas. I then decided to try this orbital test in other heart conditions and I have arrived at certain conclusions which are of some interest.

I have found this systolic murmur in the orbit of advanced heart disease, in mild cases of mitral regurgitation, in aortic cases

and in congenital cardiac conditions; also in dextrocardia complicated with mitral disease, etc. This applies more particularly to children than to adults. In many cases of advanced heart disease with murmurs all over the chest and in many mild cases of mitral regurgitation, this murmur is not heard, particularly in the adult. Why this murmur is heard in many of these conditions and why it is not heard in others where I fully expected to find it, I cannot tell at the present time. I will leave this problem for MacKenzie and Lewis, of England, or for any of our great American cardiologists to work out.

The ophthalmic artery being a terminal vessel I can conceive that the murmur could be carried up from the aorta thru the internal carotid and then end in the ophthalmic branch.

I have notes on a number of cases in which I detected this systolic orbital murmur and a few may be of interest:

Case I. Congenital heart: B. N., aged 3½ years. There is a loud systolic murmur over the whole of the cardiac area, also well heard over the back of the lungs. This congenital deformity appears to be some abnormality of the mitral orifice; there is no cyanosis and no clubbing of the tips of the fingers. However, there is marked dyspnea on exertion or even when the slightest extra strain is put upon the heart. The systolic orbital murmur is well heard in this case.

Case II. Acute myocarditis, endocarditis and chorea of an aggravated type, occurring simultaneously: G. T., aged 5½ years, a well-marked case of rheumatic endo- and myocarditis. A loud systolic murmur is heard at the apex transmitted round to the left of the scapula; a systolic murmur is heard over the aortic area, the apex of which is one inch external to the nipple line. The systolic orbital murmur is clear and well marked.

Case III. Rheumatic mitral myocardial insufficiency: J. C., aged 5 years. Left ventricle slightly hypertrophied; second sound at base accentuated and a soft systolic myocardial murmur is heard at the apex, transmitted slightly to the left. The systolic murmur is well marked in the orbit.

Case IV. Rheumatic peri- and endocarditis (I do not mention myocarditis, as I fully believe that we can take it for granted that when

we have an endocarditis that myocardial trouble is present in every instance.) Mrs. W., aged about 46. This patient also presented erythema nodosum. On examination, a pericardial friction is well heard and a systolic murmur is heard up and down the sternum. There is slight hypertrophy of the left ventricle and the orbital murmur is distinct.

Case V. Another case of interest is that of B. J., a young girl of 16 years of age, who has suffered from a chronic endocarditis for about eight years. She has had many attacks of rheumatism with progressive endocardial sclerosis involving the auriculoventricular bundle. There is considerable hypertrophy of the heart, the apex being two to three fingers breadth external to the nipple line. There is a double murmur at the apex; in fact, murmurs are to be heard all over the cardiac area. The pulse was weak and rapid. I placed her upon soda salicylate and tincture of digitalis, but she came rapidly under the cumulative effect of the digitalis and there was marked pulsation in the neck vessels, in the epigastric region and over the cardiac area; in fact, the pulsation was marked over the whole of the arterial system, she had to sit up in bed and the pulsation caused great distress; the pulse was reduced in frequency and the blood pressure much increased. I have never seen digitalis produce such a marked effect on the cardiac muscle and vessel walls as it did in this instance. I stopped the digitalis and my patient improved rapidly. The systolic murmur was well marked in the eyeballs.

Case VI. Rheumatic myocarditis: B. W., aged 3½ years. This little girl was sent to me by Dr. McGoveran. Her mother states that a few weeks ago the child had a very sore throat, followed by pains in the legs. On examining the heart I found that the apex was barely external to the nipple line. On exertion a soft systolic murmur was heard at the apex and there was a flapping second sound at the base. A systolic murmur was quite distinct over the eyeball.

Case VII. The next case is a condition of peri- and endocarditis in J. E., aged 4 years. The mother brought him to the hospital to consult me about his condition a month ago. On examination I found a slight hypertrophy of the left ventricle and a well-marked mitral systolic murmur. I advised absolute rest and large doses of sodium salicylate with sodium bicarb. The mother would not or could not keep the little lad in bed and in a couple of weeks' time he developed a general endocarditis with a marked pericarditis. The pericardial friction was to be heard all over the cardiac area. The systolic murmur was loud and distinct in the eyeballs, but the loud pericardial murmur was not to be heard at this site.

Case VIII. General endocarditis: C. F., aged 12 years, has had rheumatism frequently during the past four years. I saw him for the first time at my clinic on August 28, and on examination I found the apex one inch external

to the nipple line, the heart irregular, loud, rasping, systolic, mitral and aortic murmurs are to be heard. Here the orbital murmur was also heard.

Case IX. Mitral regurgitation: R. P., aged 9 years, suffers from a mitral regurgitation; a loud, sharp, systolic murmur is heard at the apex and is transmitted around the axilla and to the back; the second aortic sound at the base is accentuated. The apex is one-half inch external to the nipple line. This little girl came to my clinic in June, 1920, and at that time I examined her for the orbital murmur and found it quite distinct.

A short review of the above cases will be of interest: It will be seen that I have found this orbital murmur to be present in several different types of cardiac trouble. I have found it to be present in Graves' disease, in endocarditis, involving most of the valves, in aortic and mitral valvular disease and in mitral disease alone, in mitral disease complicated with pericarditis, in dextrocardia complicated with mitral disease and in congenital heart disease. It will be seen that in four of the cases the children were under six years of age and four of the others were sixteen and under; one was in a woman of forty-six. I believe that for this murmur to be heard distinctly in the orbit, the heart muscle must be in a fair tonic condition; in other words, the systolic blood pressure must be fairly high. We all know that the heart muscle of the child has great reserve force and that sclerotic changes are not so prone to take place in the heart muscle and nerve bundle as in the adult. Again, how often do we feel that a child who suffers from an acute endocarditis will never be able to carry on, and yet we are often deceived and the little sufferer frequently recovers sufficiently to enjoy life again. I have many instances of this kind on my list. Again, at times I have looked for this murmur in some severe cases of endocarditis and have been unable to find it; here the muscle is so weak that it has been unable to carry this mur-

mur to the terminal ophthalmic artery. I may mention two or three instances of this kind:

I saw a young patient this morning, 16 years of age, who suffers from a chronic endocarditis. The heart is enormous and fails on any extra exertion; the apex is four inches external to the nipple line and the right heart is proportionally enlarged—a true type of “bovine” heart. Murmurs are heard all over the chest wall and a thrill is detected, but no murmur is heard in the eyeball—the heart muscle is too weak to propel this murmur to the ophthalmic artery.

In a young woman of about 26 years of age, the heart muscle is found incompetent and endocarditis is well marked and loud murmurs are heard all over the chest wall, but none in the ophthalmic artery.

In other cases where the muscle is in good condition, altho a loud mitral or even aortic systolic murmur is heard, I have failed to hear this murmur in the ophthalmic vessel.

I have placed the first case, the young girl who suffered from Graves' disease, on tincture of digitalis and after some time the pulse, which had been 200 to the minute, dropped to 72 and the eyeball murmur disappeared. I would have expected this result here, as in this disease we are not dealing with diseased valves, but with dilated valvular orifices due to marked dilatation of the heart muscle, and as this child improved, the heart muscle again contracted and the murmurs disappeared.

The two cases mentioned as having endo- and pericarditis are interesting, as the systolic murmur in each instance was well marked in the orbit, but the loud pericardial friction was not heard. I would expect this condition as the pericardial fric-

tion is extracardial, and the systolic murmur takes place directly in the blood current. I can readily understand how a systolic murmur can be carried to the heart's nearest terminal artery.

To detect this orbital murmur the room should be free from noise and the murmur is exaggerated by making the patient exercise a little before examination. The stethoscope used by me has been the ordinary Bowles' stethoscope. This is placed over the eyeball (either eye) with the lid closed, a little to the outer side to be free from nasal respiratory sounds. A little time and patience may be required to detect it at once, but one is surprised to find how readily it may be detected with a little practice. I imagine that a soft rubber end piece could be readily manufactured to adapt itself to the shape of the eyeball.

Finally, I may add that this systolic murmur in the orbit is never detected in connection with the normal heart.

EXPERIENCE WITH BACTERIAL VACCINES IN THE PNEU- MONIAS.

BY

GUSTAV GOLDMAN, M. D.,

Baltimore, Md.

In the early fall of 1918, when the pneumonias and influenza were rampant, when all known methods of treatment seemed to be of little or no avail, I turned in desperation, with a mind prejudiced against them, to bacterial vaccines. In the epidemic in Baltimore during October and November, 1918, I gave prophylactic doses of vaccine to over 300 patients. I treated some 586 patients with influenza, bronchopneumonia and lobar pneumonia and have

on a previous occasion made report of same. I am desirous in this paper of giving a more accurate analysis and to call attention at this date to several phenomena which I observed in the fatal cases, and which I have not seen mentioned in the vast literature that has come to my hands since the severe epidemic of 1918:

The lobar pneumonias of the total cases treated numbered 130. The bronchial pneumonias totaled 187. The mortality in lobar pneumonia was six deaths. Bronchopneumonia, five deaths.

Of the lobar pneumonia, two of those succumbing were only seen within 24 hours of their demise and were in the seventh and ninth day of the disease, respectively. One death was complicated with pregnancy of 18 weeks' duration. In the bronchopneumonias dying, one was in the twenty-second week of pregnancy and one about the fourteenth week of pregnancy. All pregnant women seen by me in this epidemic of 1918, the duration of pregnancy being under the fifth month, died; all seen by me where either variety of pneumonia co-existed with a pregnancy beyond the sixth month were followed with miscarriage, and all mothers recovered.

Incidentally, in the fall of 1919, I had two cases of bronchopneumonia, both occurring about the eighteenth and twentieth week and both recovered, owing to altered pregnancy dosage, of which details follow. My cases of pneumonias should be classified as follows:

Lobar, lobular, bronchopneumonia or mixed infection pneumonia. The staphylococcus or blue pneumonias were unquestionably the most fatal types. One phenomenon observed by me was a peculiar purple coloring to the fauces, which within twelve hours extended to the buccal re-

gions, thence to the lips and eventually to face, neck and chest; this phenomenon was present in all of my fatal cases. They presented no consolidated areas in the lungs; pulse and temperature were no indication of the extremely serious condition, in that the temperatures rarely exceeded 103 and pulse rarely over 110. Most frequently, cases showed a pulse of 60 and even as low as 50, while temperatures were as low as 94 and not infrequently remained at 96 to 97 thruout an attack. The usual ratio between pulse and temperature was totally absent in my cases.

Hemolytic streptococcus cases of bronchopneumonia manifested their presence by hemorrhage from mouth, gums, conjunctivæ, and in one of my cases from the mammæ.

Bronchopneumonias of other bacterial types, where the flora were more numerous than in the hemolytic or streptococcus group, were never as serious as the types of these two groups, all responding promptly to bacterial vaccine therapy.

Duration.—In a large percentage of my cases of lobar pneumonia, crisis occurred on the fifth day and rarely extended to the seventh day.

Dosage, etc.—In the epidemic of 1918 and 1919, I was in the habit of giving initial doses, of mixed vaccine, of the following formula:

Influenza bacillus, 200,000,000; streptococcus, 100,000,000; pneumococcus, 100,000,000; micrococcus catarrhalis, 200,000,000; staphylococcus aureus, 200,000,000; staphylococcus albus, 200,000,000; $7\frac{1}{2}$ minims as a maximum dose, and increasing daily until 15 m. (1 c. c.) was given. In 1919 and 1920 I had two bronchopneumonia cases of influenzal origin with pregnancies between fourth and fifth month,

and in both I gave an initial dose of $1\frac{1}{2}$ c. c., with marked improvement after first dose and ultimate recovery of both patients and subsequent delivery of both fetuses at full term.

THE RELATION OF PEDIATRICS TO PUBLIC HEALTH.¹

BY

LAFON JONES, M. D.,
Flint, Mich.

We are living in a period of discontent and unrest and our profession has not escaped its due share of criticism. There can be no question but that the public is dissatisfied with the medical profession, and I venture to say that a considerable portion of the profession is dissatisfied with itself. We hear on every side propositions designed to complement or supplant the private practice of medicine. We view these schemes with alarm or approval, as the case may be, but on the whole our attitude has been a passive one. There is no doubt but that we are falling down badly on certain aspects of our art. Whether we approve or disapprove of any of these various schemes designed to remodel our profession, we would be foolish indeed to remain indifferent to them and to close our eyes to our own failings. And let us assimilate this fact at the start—any argument against socialized or state medicine, based on our own financial welfare will avail us little.

Regardless of the wishes of the profession, I believe that our present system will stand or fall on its success in adapting it-

self to the needs of the community. Our individual welfare will receive but little consideration at the hands of society if we fail to deliver the goods. If our present system does not meet the demands upon it, as it does not now, it is idle to suppose that we can continue to exist indefinitely as semi-parasites in the social structure. The case may be more properly one for the neurologist or the psychiatrist, but assuming it to have been referred for diagnosis I would have you consider it from the standpoint of the pediatrician.

As a novice in the field of pediatrics, who has been engaged for several years in a species of community practice, I have been somewhat of a hybrid, like Kipling's marine, "a sort of a blooming hermaphrodite, soldier and sailor, too." I have been in a position to see both sides of the question and have been forced to give some thought to the practice of medicine, at least as applied to children, as a public health problem. I would like to have you consider some of its phases and to have you express an opinion upon the subject. Until we reach some opinion among ourselves we cannot hope to be very convincing to the layman.

It seems to me that 90 per cent. or more of pediatrics is, or should be, prophylaxis, and that 90 per cent. of our shortcoming is in just this field. I do not wish to under-rate the importance of diagnosis and treatment, but the calls for these are but temporary episodes in the lives of a part of our child population. The application of prophylaxis is universal and continuous.

Assuming that stillbirths and deaths due to pre-natal causes are without our sphere as pediatricians, our first problem chronologically is that of infant feeding, and that this is a problem of any importance is in

¹ Read before Maimonides Medical Society, Detroit, Mich.

itself an evidence of failure. Sedgewick, of Minneapolis, has proven conclusively that a large majority of all mothers can nurse their babies, wholly or in part. This being true, the bottle-fed baby should be more or less of a medical curiosity. That he is rather the rule than the exception can be demonstrated at any baby clinic. And of the babies who are bottle fed, a surprisingly large number are poorly fed. To say that most mothers institute artificial feeding on their own initiative and plan their own formulæ does not absolve us in the least. The problem is a medical one and should be ours. I realize that many mothers feel perfectly capable of feeding their own children, that most mothers, perhaps, cannot afford to have advice, but I also realize that the physician, when called, has been all too ready to acquiesce in weaning and that all too many of them feed babies in the easiest way on patent baby foods and according to the directions on the label. The extensive use of sweetened condensed milk, an unpardonable sin, is as much due to the medical profession as to the mother. There may have been a time when ignorance of baby feeding was justified, a time when feeding was a maze of mysticism and higher mathematics, but in these days, when feeding has been so simplified that enough can be learned in two hours to feed successfully most babies, there is no excuse for ignorance on the part of any man who attempts it.

Passing from infancy to that of no man's land of early childhood, designated by social workers as the pre-school age, the children passing thru this period accumulate an appalling list of casualties. We find them entering school life already at this early age handicapped by many preventable conditions. In the kindergarten

children we see chronic dental abscesses, faces and chests deformed by obstructed nasal respiration, uncorrected errors of refraction with their sequelæ of strabismus and amblyopia, chronic suppurative otitis media, chronic malnutrition, due more often to lack of wisdom than lack of money; all unnecessary.

With school life these dangers are increased and for the first time we feel the real force of the acute contagious diseases and, more important, their complications. Here the chronic heart and kidney diseases are added to the harvest. That we have not taught parents to recognize the real dangers of the so-called minor contagious diseases is a reflection upon our profession. Smallpox has indeed been subdued and diphtheria will be as soon as the Schick test and active immunization have been sold to the profession in general.

It is in early school life, too, that we recognize the mentally retarded and the feeble-minded child, the epileptic, the constitutional inferior and the child with the psychopathic personality. We can scarcely lay the blame for these conditions at the door of the physician, at least not yet, but he should have more interest in uncovering these cases and aiding in their proper disposition. If we can accept the teaching of the endocrinologist, we will soon be asked to accept the responsibility for these conditions, hitherto classed as idiopathic.

You may be ready by this time to object that I am accusing you of neglecting a duty that was never yours, that I am confusing public health problems with those of private practice, as indeed I am, if the distinction can be made. Nevertheless, all these problems are medical problems as well as administrative ones, and as such should be of vital interest to us. I can

conceive of no illness which is not in some degree both a medical and a public health problem. Here, then, is the nucleus of the whole matter—just where do we wish to stand in regard to preventive medicine and public health work, in the accepted definitions of these terms. For some hundreds of years, in fact, since the divorce of medicine and the church (you will remember that the Kohens and Levites combined the offices of the clergy, the teacher, the law-giver, the physician and the public health official) medicine has consisted largely of the type we call private practice and has concerned itself but little with social problems. It has been strictly a retail business. If after twenty centuries, more or less, of a medical monopoly conditions are what they are today, I think I may justly say that private practice has failed to measure up to its opportunities. If you believe, as I do, that the sole justification for the existence of any individual or group lies in its ability to promote the welfare of the race, you must concur in the opinion that these thousands of afflicted children are a serious indictment of the medical profession. If you believe, as I do, that at least three-fourths of all the ills that flesh is heir to, find their origin in the preventable maladies of childhood, we have a challenge worthy of the best traditions of the noblest of professions. Are we willing to accept the responsibility?

During the past ten years there have come into existence many agencies, to fill the gaps we have left—the public health officer, the community health center, the state hospital, the charity clinic and, most recently, the public health nurse. These have largely grown up independent of the bulk of the medical profession. These agencies are broadening their scope, new

schemes are constantly being proposed, in few of which does the doctor figure highly. What is to be our attitude toward these innovations? Are we simply to hold ourselves aloof, accepting in splendid isolation whatever is left to us of our private practice?

Certain it is that the personal opinion of a handful of medical men cannot halt evolution. I think our future lies rather in cooperation with existing agencies and in taking part in the development of new ones. As a profession we must develop the social instinct and accept the responsibility that is ours. There is much that we obviously cannot do alone: the enforcement of quarantine, the development of popular medical education, the care of the indigent, the establishment of clinics, the inspection of school children, the institutional care of the subnormal—these are properly state or municipal duties. But we can and should have an active voice in the operation of these things and a personal interest in some one at least.

I have no panacea to offer. I do have a strong feeling that we cannot defeat change by mere opposition, active or passive. If we do not approve the innovation we must at least have something to offer in its place. I suggest active cooperation of the medical profession as a whole with those portions of the present order of which we can approve and a sincere attempt to offer something better for that which we believe to be bad. Public health officials, social workers and legislators will welcome our aid.

As to details, my ideas are still nebulous. There is no denying that we have, whether from poverty or indifference, children neglected certainly thru no fault of their own. How best to give them the care, how best

to give their parents the proper education in child care, to the end that those children, rich and poor, shall have that equality of good health which is their inalienable right, is a big question. I believe that there is much that is good in the present agencies working for child welfare; we should adopt it as our own. I believe that there is much that is unwisely done by these same agencies; we should offer out of our wisdom better methods. And, lastly, we should by constant application of our knowledge of prophylaxis to our private practice, do our share individually to make preventive medicine a real force. It is not that we have lacked knowledge, but that we have lacked initiative. I have no patience with those who hold that our present system is sufficient. The fact is that it has failed miserably. It lacks aggressiveness. Diagnosis and treatment have been its scope and often the fee its highest ideal. I do not believe, on the other hand, that private practice is doomed, nor do I believe that we should work for an inadequate fee. An underpaid medical profession will never be an asset in the social order.

We must instruct our patients and their families beyond the present emergency. Any obstetrician who delivers a baby without impressing upon the mother the importance of breast feeding has cheated the patient and discredited the profession. Any physician who attends a case of infantile paralysis thru the acute stage without giving explicit advice as to the care during convalescence is remiss in his duty. We must learn to look beyond the disease and see the patient. If you remove the tonsils of a delicate child and consider your work successful when the throat is healed,

you are false to the ideals of your profession. Your duty requires that you attempt at least to see that that child gets the proper diet, hygienic care and medical attention for his constitutional condition, if all these be necessary. If the parents can afford no more than your services, it is up to you to see that further care is provided by proper organizations. As a rule, we prescribe tonics too frequently, specific advice too seldom.

I believe that it will be up to you to provide your services as a specialist in some sort of an organization or agreement by which a patient needing specialist's services beyond his means, may secure them at a price reasonable to him, and retain his self-respect, and this despite any preconceived notion you may hold upon the subject of cut-prices. I believe that we should associate ourselves with every organization dispensing medical relief to the less fortunate. Not only will this enable us to do our own charity work on an organized basis, but it will be a stimulus to better work, and only in this way do we acquire the moral right to take active part in planning the program of such institutions.

That remarkable woman, Florence Nightingale, once said with reference to criticisms of the hospital system of her day something which applies well to our questions today: "I have always believed and I believe it now, and more every day I live, that what is wrong with the hospitals is to be patiently, laboriously and, above all, quietly mended by efforts made from within them, and not by accusations, investigations and noise from without."

607 Beach St.



RATIONAL ORGANOTHERAPY

The Interstitial Gland.—Morley discusses this subject (*New York Med. Jour.*, March 2, 1921) and says that the term interstitial gland was given to a special group of cells found in the ovary of animals by a Frenchman, M. Bouin, about 1900. Later this name was applied to similar cells or groups of cells in testes by P. Bouin and P. Ancel, in 1903. Since that time much work, both research and clinical, has been done, and the literature is rich with monographs, memoirs and case reports of the interstitial gland. As to the origin of these cells, whether in groups and forming an interstitial gland or scattered about singly in the ovarian connective tissue, there seems to be much difference of opinion. Falta has made the statement that an interstitial gland, in women, is a cell complex that develops from the theca interna of atretic follicles. In explanation, an atretic follicle is a Graafian follicle that has not reached full development, that never has contained an ovum, and hence does not ripen and discharge its ovum. But aside from this group of cells found in the female ovary, there are numerous cells of like character scattered thruout the ovarian tissue. In the testes the interstitial cells are found in the interstitial tissue between its seminiferous tubules, and are arranged in irregular groups. These latter are often referred to as Leydig's cells. There is no doubt that this scattered and irregular arrangement of the cells has led to much inaccuracy in their study, and that at certain seasons, such as rutting and hibernation, many errors have resulted in observing whether these cells were atrophic, hypertrophic, or hyperplastic. To repeat, the interstitial cells, a group of which is called an interstitial gland, arise from the theca interna of an atretic follicle, at least the majority of observers agree; some few maintain that they are of stromal origin. Where the interstitial cells of the testes originate, has not been deter-

mined. The point to remember is, however, that there are such things as interstitial cells; that a group of these cells, in the ovary especially, is called an interstitial gland, and that while there seems to be some difference of opinion as to their origin, nevertheless they do exist.

Concerning the function of these interstitial cells and hence of the interstitial gland, the consensus of opinion seems to be that they are part of the internal secretory mechanism of the ovary, and the chief, if not the only, source of the internal secretion of the testes. It is supposed, and to some extent is proved by clinical observation, that in the female up to the time of puberty and after the menopause the entire source of the internal secretion of the ovary is the interstitial gland. Between puberty and the menopause the corpus luteum, acting in conjunction with or independently of the interstitial cells, produces the internal secretion of the ovary.

The Suprarenal Glands in Deficiency Diseases.

—The widespread effects of the absence of vitamins in the diet on certain organs apparently remote from their influence is perhaps only just becoming recognized says an editorial writer in the *Lancet* (Feb. 19, 1921). R. McCarrison, in his observations in an article in "Proceedings of the Royal Society," 1920, vol. xci, on the genesis of edema in beriberi, states that in pigeons suffering from experimental beriberi the edema is always associated with considerable increase in the size of the suprarenal bodies and that four-fifths of the animals with enlarged suprarenals show some form of edema. The adrenalin content was increased proportionately to the weight of the organs. The pigeons had been fed on polished rice heated in an autoclave, until they showed signs of polyneu-

ritis. In 10 out of 22 pigeons edema occurred. The increase in size of the suprarenals is a true hypertrophy at least of the medulla, and if the increase of the adrenalin content can really be brought into causal relation with the edema, it is possible that this factor may be found to play some part in the production of edema generally. While the size of the suprarenals appears to have relation to the absence of the anti-neuritic factor, it would appear that the suprarenals are also affected by diets deficient in the antiscorbutic vitamine, as shown by the experiments of Victor K. La Mer and H. L. Campbell, of Columbia University. These observers fed young guinea pigs, weighing 250-300 g., on a diet deficient in the antiscorbutic vitamine, and found an increase of weight of the adrenal glands amounting to approximately 100 per cent. when computed on the basis of body weight minus alimentary canal. Control animals which have been subjected to starvation do not show an increase of adrenal weight, which, in those fed on scorbutic diet, is directly proportional to the time during which their food has been deficient. It is most pronounced in those animals whose life has been prolonged by the partial protection afforded by small but insufficient quantities of tomato juice. La Mer and Campbell interpret the increased weight as indicating a compensatory response to the decreased adrenalin production known to exist in the scorbutic animal, a point which has interest in connection with the extensive intramuscular and intestinal hemorrhages found in scurvy. The heart and kidneys are increased on the scorbutic diet, while there is no evidence that the liver is affected by a lack of water-soluble C alone.

Testicular Opothrapy.—The failure of testicular extract in cases where it seems indicated, when contrasted with the brilliant effects of testicular grafts and with the generally favorable effects of so many organ extracts when given by the mouth, is, according to the *Medical Record* (Jan. 15, 1921), one of the riddles of therapeutics. Bauer's article in *Le Bulletin Médical* for Oct. 2, 1920, xxxiv, 47, is especially referred to. While the interstitial cells of the testicle are believed to contain the active prin-

ciple of the gland, an extract of the whole organ is usually given. If animals are castrated and glandular extracts injected, the effects which should result from the unsexing do not supervene. Extracts have been prepared from human ectopic testicles which consist wholly of interstitial tissue but the results have been disappointing. The good effects claimed for the extract of Pochl are not obtained by those who have tested it. Ever since the first trial of testicular therapy by Brown-Séquard cures of impotence have been claimed, but these were probably cases of psychical impotence only. Results obtained in children, especially about the time of prepuberty, in cases of anomalies of growth and development, appear to show that the remedy may have some power in the undeveloped male. Souques, in fact, gives it with other extracts in infantilism. An empirical or chance effect in relieving constipation has been claimed by several who have given the gland to neurasthenics, but apparently only when injected hypodermically. The usual dose has been five grains of the dried extract two or three times daily. The author does not mention either massive doses or the use of the remedy over prolonged intervals of time, but doubtless the treatment would not have been abandoned without a complete trial, including subcutaneous injection.

Suprarenals and Respiration.—Sajous (*New York Medical Journal*, Feb. 14, 1920) describes the function of the suprarenal secretion in regard to respiration. There is in the blood some substance which has the power of taking up oxygen from the pulmonary air cells. Henrique, in 1897, demonstrated the presence in the alveolar walls of a substance capable of absorbing the atmospheric oxygen. This substance, Sajous considers, is adrenalin. The marked affinity of adrenalized plasma for oxygen causes it to absorb this gas from the alveolar air. This affinity of adrenalin for oxygen can be shown experimentally, for when blood from the adrenal veins is diluted with saline solution, it quickly assumes a bright red arterial hue, while blood from other organs treated similarly shows no change.

The presence of adrenal ferment (adrenoxidase) can also be demonstrated in all nerve fibres and nerve cells, and Sajous considers all nerve cells are also the seat of

a respiratory process, and of active metabolism. Respiration, the very life of the tissue cell, is influenced by the adrenal hormone, and the oxygen intake of the cell is under the control of the adrenals. The author considers that death from pneumonia is due to failure of the adrenals—weak adrenals mean weak metabolism and weak defences. The failure of the adrenals in pneumonia is very marked in the aged, for the adrenal vessels have degenerated and the organ itself is correspondingly deficient. In epidemic pneumonia the toxin, or filtrable virus of the disease, causes, in the opinion of the author, a paresis of the adrenal function, which inhibits general oxidation and metabolism, thus causing the familiar asthenia and low blood pressure. Hypoplasia of adrenals has been frequently found at autopsy after influenzal pneumonia.

The Modern View of Thyroid Disorder.

The thyroid glands, according to a writer in the *Therapeutic Digest*, produce and discharge into the blood and lymph a complex secretion which contains, in case of normal metabolism, the exact amount of active principle or hormone required to maintain a normal condition. This substance influences certain tissues directly and affects many functions of various organs. This action is performed thru humoral channels and is accredited to the hormone contents. These hormones are essential to life, a fact which explains the danger involved in extirpation of thyroid glands. Imperfect development, or disease of the thyroid caused by disturbed metabolism, malnutrition, unfavorable climate, or altitude, impure water, etc., are a great menace to health and life. Cretinism and myxedema are both associated with a deficiency of the thyroid secretions. A similar condition is produced by the surgical removal of the thyroid gland.

Endocrinology in Pharmacodynamics.

Bate (*Medical Review of Reviews*, June, 1920), points out that the physiologic action of every living cell is conceded to be under the control of internal secretions. Medicines administered by the mouth, stomach, rectum, respiratory tract, skin and veins, by arterial transfusion or by rays, all

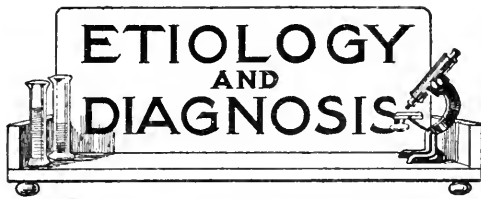
produce their effect by endocrine activity, which is due to the medicine having been brought to its place of assimilation by ameboid leucocytes or body corpuscles. These body corpuscles wander everywhere thru the spaces of connective tissue; hence the dire consequences of connective tissue changes to an organ. If a drug is administered by the skin, mucous or serous membrane, there is probably a selective leucocyte affinity that determines the carrier. If direct administration within the tissues is practiced, probably an enforced leucocyte activity results. It is probable that prolonged hypodermic medication may thus result in harm. Drugs introduced into a body without ductless glands would probably produce no action of any kind. Drugs introduced into the body with inactive ductless glands, without the help of artificial endocrine substances, would probably have little or no effect. Drugs introduced into a system with active endocrine organs produce their physiologic action by stimulating or inhibiting those hormones or chalones that control the physiologic or inhibiting action of cellular life.

The Tendency of Hyperthyroidism to Recur.

In cases of hyperthyroidism improvement or even apparent cure, while the patient remains in the hospital, is not conclusive evidence of the beneficence of the treatment, claims the *American Journal of Surgery* (Feb., 1921), whether it was by surgery, medicine or the X-ray. The symptoms may, and often do, recur when the patient returns to the environment in which they developed.

Influence of Thyroid Function on Suprarenals.

There is much evidence, tho not unanimous, Herring says (*Endocrinology*, October-December, 1920), that hyperthyroidism increases the size and weight of the suprarenals. There is some evidence that hyperthyroidism does, in the healthy animal, increase the epinephrin load of the chromophil tissues. A specific action of thyroid in stimulating the secretion of epinephrin and in sensitizing the structures amenable to its action, tho not improbable is not satisfactorily proved. Hypothyroidism is shown to have no effect on the epinephrin load of the suprarenals.



The Diagnosis of Acute Abdominal Crises.—Burgess (*British Medical Journal*, Dec. 11, 1920), in his two post-graduate lectures given in part, takes up the diagnosis of acute abdominal crises in a general sense, and considers, first of all, individually, the various symptoms and signs met with in such crises, attributing to each its relative value as a factor in diagnosis, and as an indication for treatment; and secondly, these same symptoms arranged in groups, such as are observed clinically in the different types of abdominal crises. The general symptoms include: (1) Various degrees of shock or collapse; (2) alterations in the frequency and character of the pulse; (3) changes in the temperature; (4) alterations in the type of respiration—"thoracic" type; (5) other symptoms, such as a dry and furred condition of the tongue, hiccough, strangury, and tenesmus. Speaking generally, one may say that, although these general symptoms are useful in directing attention to the possibility of a crisis having occurred, yet they give no clue to its nature, nor are they alone of much value as indications for treatment. It is, then, mainly upon the local symptoms and signs—those referable to the abdomen itself—that one must rely in deciding questions of diagnosis and treatment in any acute abdominal crisis. These include: (1) Abdominal pain; (2) cutaneous hyperalgesias ("viscerosensory" reflex); (3) tenderness, local and general; (4) nausea, vomiting; (5) muscular rigidity ("visceromotor" reflex); (6) abdominal distension; (7) presence of free gas in the peritoneal cavity; (8) presence of free fluid in the peritoneal cavity; (9) local abdominal or pelvic swelling; (10) certain changes ascertainable upon rectal examination. Before deciding in any given case presenting symptoms suggestive of an acute abdominal crisis that the cause is referable even to the abdomen at all, two fallacies in particular should be borne in mind: (a) The "crisis" met with in tabes dorsalis—"gastric," "intestinal," and "renal." It should be a cardinal rule to test the knee-jerk in every abdominal case. On the other hand, it must be realized that tabes does not preclude the coexistence of a true abdominal crisis and, further, that visceral analgesia which occurs in some tabetics and prevents the manifestation of pain, cutaneous hyperalgesia, tenderness, and rigidity, may render the recognition of such crisis a very difficult matter indeed. (b) The possibility of confusion between acute abdominal crises and acute intrathoracic diseases, especially acute basal pneumonia, acute diaphragmatic pleurisy, and acute pericarditis. This difficulty is sometimes a very real one, and surgeons of experience have

not infrequently opened the abdomen only to find the peritoneal cavity normal and the lesion an intrathoracic one. Whenever acute *lobar* pneumonia follows within twenty-four or forty-eight hours of an "early appendectomy," one cannot help but suspect that the pneumonia was the real cause of the abdominal symptoms and that the operation was unnecessary; when pneumonia is due to an operation, it is of the *lobular* or bronchopneumonia type. Confusion is particularly liable to arise in young children, since they cannot assist with a description of their symptoms, and since in them the physical signs of pneumonia are sometimes delayed for twenty-four or even forty-eight hours. Having excluded these possible fallacies, and having decided that one is dealing with a true abdominal crisis, the possible cause of the condition is next to be considered. For his own guidance, the writer is accustomed mentally to classify the causes into five groups: (1) The colics; (2) the perforations; (3) the hemorrhages; (4) the inflammations; (5) the obstructions. In conclusion, the writer emphasizes the importance of early diagnosis. The time that has elapsed between the onset of the attack and the opening of the abdomen is the real deciding factor in the ultimate issue of the case—far more so than the skill of the individual surgeon. He believes he speaks for all surgeons when he says that he infinitely prefers to meet in consultation the practitioner whose diagnosis, *made in the early hours* of the attack, is limited to "something gone seriously wrong in the belly" than one who, *forty-eight hours later*, can give a cut-and-dried and possibly perfectly correct description of what an operation will reveal.

The Diagnostic Value of the Renal Outlines in X-Ray Pictures.—Scott (*British Medical Journal*, September 11, 1920) summarizes as follows the method of determining the relation of abnormal shadows to the kidney: (1) The outline of the kidney must be seen. (2) An abnormal shadow lying *outside* this cannot be in the kidney. (3) If the shadow lies inside the limits of the outline, then it is necessary to compare the plate taken at full inspiration with one taken at full expiration. The respiratory excursion of the kidney is first measured, and the respiratory movements of the shadow under discussion are then compared. The direction of the movement of each is also noted. If the respiratory excursion and direction of the kidney and abnormal shadow are the same, the latter must be in connection with the kidney. A rule, therefore, can be formulated that if an abnormal shadow or shadows, no matter how small and insignificant they may be, lying inside the renal outline, move to the same extent and in the same direction as the kidney, they must be connected with it. This rule will apply to one or several shadows, and in this way it is quite easy to pick out from a number of shadows those that are of renal origin. In some cases the kidney may be fixed, and no respiratory excursion obtainable. If, however, it be

possible to demonstrate that the shadow under discussion has moved in some direction or other, while the kidney has remained unaltered, the shadow must be outside the kidney. Once having diagnosed the presence of a stone in the kidney its correct position in the organ itself can be given, and a rough estimate made as to its size. Scott considers this method of localization invaluable where the shadow is extremely indefinite and doubt is felt as to its nature.

A Method of Approximating the Time of Death.—Vaughan in a communication to the *Journal of the American Medical Association* (Feb. 26, 1921), calls attention to the fact that medicolegal volumes fail to reveal any method whereby one can determine even approximately how long a body has been dead. When a dead body is discovered the police naturally turn to the physician for information as to the probable time of death. We are, therefore, confronted by the problem of discovering some method that can be relied on to give fairly accurate information on this subject.

Vaughan has found that, taking advantage of the fact that those portions of the body farthest from the heart—namely, the extremities—are the first to cool, it is possible, by dividing the lower extremities into ten parts, to determine the approximate time of death with a fair degree of accuracy. The method is as follows:

Divide the leg from ankle to knee into three imaginary parts, take the region of the kneecap as the fourth part and divide the thigh into six parts, making ten parts in all, and make allowance of one hour for each division; then by sense of touch note the difference in temperature in each section. Allowing one hour for each section and starting with section 1 (section 1 being the lowest third of the leg above the ankle), if section 1 is found to be frankly cold as compared with section 2 (middle third of the leg above the ankle), one may state that the body has been dead about one hour. If in section 2 one finds frank coldness as compared to section 3, the body has been dead about two hours, and so on up the leg and thigh until one is able to state approximately how long a body has been dead, if death has occurred within ten hours.

This method has been proved to be fairly accurate in more than a hundred examinations conducted by Assistant Medical Examiners Martin and Boettiger, of Kings County, and by Drs. Hala and Atchley of Kings County Hospital, together with the author. The tests have been conducted only where the prevailing atmospheric temperature ranged from 40 to 80 F.

This method is so simple that every person connected with a hospital or with the police force can determine the approximate time of death to his own satisfaction, and in my opinion it should be of material aid to the ambulance surgeon, who is likely to be the first whose opinion is asked at the scene of

the discovery of a body.

This article is submitted to the medical profession for more general investigation and study.



Indications for Tonsillectomy.—T. L. Deavor in the *International Journal of Surgery* (Jan., 1921) declares that constitutional symptoms, in many instances, should be taken more seriously than the degree of hypertrophy. Most of the tonsil, when diseased, is out of sight, even tho there is marked projection into the pharynx. Both tonsils should always be removed, tho the toxic element may reside in only one. The larger of the two is often quiescent. As the tonsil hypertrophies, the pillars are put upon the stretch, intermittent or continuous. The result of tension so produced is to force the infective material into the lymphatic circulation. Prima donnas and public speakers have acquired disfavor toward removal of the tonsils—largely because much damage has, at times, been done to surrounding tissues, limiting the usual flexibility of the anterior and posterior pillars. Greatly enlarged tonsils may seem otherwise innocent, yet, during removal, fluid resembling pus can frequently be expressed from them which was not discovered on examination. Thru tonsillectomy, patients are relieved of lassitude, earache, erratic pains, headache, rheumatic tendencies, cervical adenitis and cardiovascular depression. Not a few individuals gain in weight. If results are good, but not wholly satisfactory, an associated lesion will always be found. Look for nasal obstruction, necrosis of bone, sinusitis, or defective teeth. A diseased tonsil may be secondary to any of the above conditions. In case of cervical adenitis, especially the fluctuating type, the tonsil should be dealt with first. In this way one limits the number of unsightly scars about the neck. Again, if the tonsil is the primary focus and is left, enlarged glands, when removed, are soon replaced by others. It is along these lines that more concerted action is needed on the part of three men, the surgeon, the physician and the dentist.

Artificial Impregnation.—Dickinson takes up in detail the problem and technic of artificial impregnation and gives the following as obstacles which may interfere with its success:

1. The possibility of infection of the tube and peritoneum.
2. Old tubal disease may be lighted up anew. It may, for a tubouterine orifice never closes.

For the present, at least such cases should be avoided.

3. It is possible that all that injection of semen accomplishes is to open the tube, in which case other fluids would do as well, and antiseptics be safer as used by Stone and Bovee. Only tests can tell.

4. One can have no assurance that coitus subsequent to the treatment was not the real agent in procuring conception. This may be true and this is the reason that the veterinary surgeon can offer proofs which we cannot.

5. It fails with semen which is not vigorous. It was devised for just such cases and it has not helped so far.

6. The field is very limited because patients revolt at the idea, or give it one trial instead of half a dozen. They prefer laparotomy. All this is exact, but it does not relieve us of the responsibility of preventing the patient taking the greater risk should there be a simpler way, did we but have the will to face the distastefulness of working it out.

Dickinson summarizes as follows: In women presenting histories or pelvic findings pointing to the sealed tube following milder types of salpingitis, entirely quiescent, injection into the uterine cavity of active semen produced no results in twelve instances. Strong pressure was not deemed warranted.

In women with no gonorrheal histories or findings, free from cervical inflammations and evident uterine, tubal or ovarian lesions or abnormalities, living semen of the poorer grades produced no results in nineteen patients. No infection followed except in one possible instance and that of mild type. Several of these received three trials.

With fairly normal pelvic organs and semen of good quality, five pregnancies followed and are believed to have been due to tubal insemination. The knee-chest posture, the curved pipette fitting the internal os and carried nearly to the fundus, injection into the tubes, horizontal rest, and repetition three to six times—these are considered important. Trial of this method may well precede resort to operation—save those done for external obstructions.

Medical Treatment of Incipient Cataract.—Scalinci (*Riforma Medica*, Sept. 11, 1920) lays stress on the fact that cataract is especially prone to develop in persons with a special diathesis or dyscrasia. He recalls that an iodide solution undoubtedly passes into the interior of the eye and may restore the local metabolism to approximately normal and thus arrest the tendency to opacity. Good results have been reported from electrolytic introduction of iodide salts, but this, like subconjunctival injections, must be reserved for exceptional cases. However, bathing the eye with iodide solution is a simple and easy procedure. The solution should not be stronger than 0.25 or 0.5 per cent. at first. Smarting usually indicates that impurities are present. He advises a 1 per cent. solution of sodium iodide or rubidium iodide with addition of a trace of

calcium phosphate. Very little if any benefit can be looked for secondary, congenital or stationary cataract. The best results are obtained when the lens is first beginning to show a tendency to opacity, especially incipient diabetes. The lens may still be transparent, but changes in refraction show disturbance in the molecular imbibition of the hydrogel of the lens, and conditions may be restored to normal by the local iodide treatment. The widest field for its application is incipient senile cataract of the subcapsular, cortical type, which may be regarded as a manifestation of dyscrasia. The diathesis or dyscrasia should be combated at the same time. Dor asserts that of every ten patients with incipient cataract, eight can have the process arrested, one can be cured and only the tenth finds his condition not modified. Others are less enthusiastic, but Scalinci remarks in conclusion that this local iodide treatment is well worth a trial.

The Benzyl Treatment of Persistent Hiccough.—Macht, of Johns Hopkins University has done more than any one else to establish the field of the therapeutic application of benzyl benzoate. Some time ago, he called attention to its value as an antispasmodic and anodyne in the painful and distressing conditions arising from spasms of the smooth-muscle tissues, such as dysmenorrhea, renal colic, dysentery and asthma. Many drugs, which often are announced in high notes of enthusiasm, prove disappointing in practice; scores could be named. This does not seem to be true of benzyl benzoate. Reports indicate that it is generally coming up to the recommendations of its sponsor in his earlier writings.

Pursuing his investigations, Macht has found other uses for the ester.

In the *Medical Record* (New York), he has recently shown its application in the treatment of persistent hiccoughs in both adults and children. Not only is it useful in the ordinary forms so common to infants, but also in the severer form that lasts some days and threatens to kill the patient by exhaustion.

The drug acts best, says Macht, in 20 per cent. alcoholic solution; of this, he directs the patient to take from 20 to 40 drops in water or milk. This dose should be repeated, at hourly or half-hourly intervals, as required for effect.

Several cases are reviewed in this paper in which benzyl benzoate was so used, in all with good results.

The Induction of Premature Labor.—The induction of labor for the preservation of maternal and fetal life is carefully considered by Phillips (*Lancet*, Oct. 9, 1920) with some enthusiasm of laminaria tents which if kept in alcoholic solution 1 to 1000 remain aseptic over a long period. In the afternoon the laminaria tents are introduced into the cervix, from one to three of the long variety, fresh from the solution, and within 18 hours are

removed, when the cervix will be found to admit a finger, also quite soft and dilatable, enabling one to insert, after a little digital dilatation under an anesthetic, a small de Ribes bag.

He gives an analysis of his results in 161 cases, recording seven deaths of mothers and twenty-four of children. His maternal deaths were due to acute bronchitis (1), multiple fibroid with twins (1), contracted pelvis and acute yellow atrophy (1), ventrofixation and bilobing of uterus (1), placenta previa (1), acute albuminuria and eclampsia (2).

With regard to the maternal deaths, none of them can be attributed to the actual induction, as a fatal result would, in all probability, have occurred without the operation; induction of labor may, therefore, be looked upon as a procedure which, *per se*, should be unattended by any mortality.

The writer believes that in cases in which rapid delivery in a primigravida is necessary, such as in puerperal convulsions and complete placenta previa, it would perhaps be preferable to perform Cesarean section, but should the case be that of a multipara digital dilatation and a de Ribes bag would be the best course to pursue. If there is no urgency and the case can be taken deliberately, bougies, followed by digital dilatation or a de Ribes bag, is the preferable course.

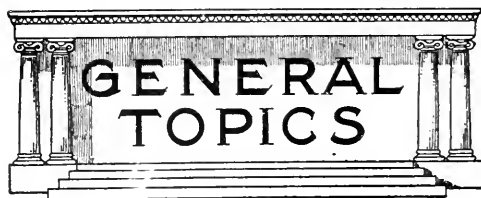
Bronchopulmonary Spirochetosis (Castellani).—Levy, in the *New York Medical Journal*, January 29, 1921, says: The attention of the profession was recently directed to the numerous cases of Castellani's bronchitis being reported from various parts of the world, and to the probability of like infections occurring in this country. That this was most probable was suggested as a result of the close association of the American troops in France, Germany, and Italy, with groups from areas which were known to have been infected with the spirochete.

The symptoms in acute cases usually disappear after a few days' rest in bed. For the rheumatoid pains, salicylates or codeine may be necessary. If hemorrhage is a prominent feature, the usual remedies as employed in other pulmonary disorders are advised, such as morphine, icebag to the chest, calcium lactate, or, in severe cases, blood transfusions. The anemia is combated by the usual tonic remedies, of which iron in some form is the basis. In the way of specific treatment arsenic has given better results than any other drug used. Recently much success has attended the intravenous use of one of the arsphenamine products.

The report of these two cases is made with the hope that a more careful study of the sputum of patients suffering from chronic cough will reveal other cases of bronchopulmonary spirochetosis. In a study of seventy-nine cases of chronic cough, Thompson found the spirochete present in thirty-nine. In view of the wide distribution of the infection as evidenced by reports the world over, it is our belief that more cases will be brought to light by more

careful investigations. The close similarity of the symptoms of bronchopulmonary spirochetosis to influenza, and especially to pulmonary tuberculosis, should constantly be borne in mind, and as a conclusive differential test from tuberculosis we would recommend an inoculation of the suspected sputum into a guinea pig.

Treatment of Displacements of the Uterus.—Bland, writing in the *N. Y. Med. Jour.* (November 6, 1920), gives the following summary of his views on this subject: 1. Therapeutically there is a distinct need for a specific line of division between medical and surgical malpositions. 2. The symptomatology of uterine displacements, in general, as taught today is erroneous. This is confirmed by the small percentage of so-called cures following operation. 3. Uncomplicated malpositions should be treated by medical and mechanical means. Operative measures should be applied to those associated with distinct surgical complications. 4. Operative intervention should not be utilized in the simple malpositions of virgins or young married women. 5. The infantile uterus never requires, nor is the condition benefited by surgery. Endocrine dysfunction as an etiologic factor should be remembered. This condition should be treated and not the uterus. 6. Nerve and muscle relaxation (backache) should be regarded as a causative factor and not the result of uterine malposition. 7. Restoration of nerve and muscle power should be restored in all cases and is best accomplished by rest and generous feeding. 8. In no case of retroflexion or retroversion will the patient recover in the presence of obstinate constipation or bladder overdistention. Overcome constipation and malpositions will largely disappear. 9. The prolapsus of old women with low surgical resistance is best treated mechanically by the Menge pessary.



Purification and Sterilization of Drinking Water with Lime.—Smith (*Mededeel. v. d. Burg. Geneesk. Dienst*, Java, Nov. 3, 1920) asserts that his extensive experiments with lime have confirmed its sterilizing and clarifying power for river water. He refers to the turbid, brown rivers of Java in which the amount of dissolved impurities and content of ammonia is small. The addition of milk of lime causes flaking of the colloid particles responsible for the turbidity. Ordinary laboratory filter paper retained practically all bacteria when the fluid passed thru it had been rendered alkaline. His tabulations show that there is a possibility of obtaining nearly sterile water from turbid and greatly polluted water by mix-

ing lime with it for just a few seconds, and passing the mixture thru ordinary coarse filter paper, provided the first 250 c. c. be thrown away. His tests do not prove that the method can be applied on a large scale, with sand instead of paper, but they render it strongly probable. He reiterates that the filtrate only requires neutralization with carbon dioxide, which is harmless, to give a completely reliable, sufficiently soft and palatable water.

Avocado Fat.—Among the fruits that enter into the dietary of man the avocado, or alligator pear, takes an almost unique place because of its richness in fat, says an editorial writer in the *Journal of the American Medical Association* (March 27, 1920). A few fruits may furnish a noticeable quota of real nutrients in the form of starch and, particularly, sugars; thus an ordinary sized banana is rated at a food value of 100 calories or more. But for the most part the fruits that enter into the ordinary regimen, however palatable, wholesome and dietetically valuable they may be, can scarcely be rated as significant sources of energy. The part that they play in nutrition must be estimated from other standpoints. Accordingly, an edible fruit that may exhibit as much as 20 per cent. of fat in its make-up is worthy of special consideration. It may prove, for example, to become a valued adjuvant to the dietary of the diabetic, from which the carbohydrate content of many common fruits unfortunately excludes them. The possibilities of the avocado have been further promoted by recent investigations in California and Washington, both of which agree in assigning an excellent utilization to avocado fat, even when as much as 124 gm. (about 4½ ounces) a day were consumed. Heretofore the market price of this fruit has prohibited a very widespread use of what now appears to be a nutritious as well as palatable food. The avocado is indigenous to tropical and sub-tropical regions in the western hemisphere; but it is being cultivated to an increasing extent in Florida and California, and may ultimately become available at more reasonable prices in harmony with the history of some other tropical fruits. Dietotherapy will testify that the enrichment of the dietary with a really palatable source of fat will not be unwelcomed in the management of certain nutritive disorders. Ordinary cream rarely exceeds the avocado in available fat content.

Special Points to be Remembered About Vaccination in Smallpox.—Stewart (*Western Medical Times*, January, 1921) says:

1. Rigid cleanliness should be exercised in preparing the patient for vaccination and in the after-care of the vaccinated area.
2. Deep scarification should be avoided; no blood should be drawn.
3. Vaccination should be preferably in the winter or spring, to get the best results, as the

vaccine, being a living virus, is easily destroyed by summer temperature.

4. Careful instructions should be given the patient as to the subsequent care of the vaccination, and cleansing or treatment of the vaccinated area is necessary. The patient should be instructed to return in a day or two to the physician for examination.

5. It should be remembered that vaccination is a surgical procedure and a suppurative wound, unless properly looked after, is an excellent culture field for the growth of foreign bacilli.

Unfortunate occurrences can be entirely prevented if the patient is kept under observation of the physician until the vaccinated area is completely healed.

6. Glycerinated virus is the only form of vaccine prepared at the present time. Only fresh vaccine should be employed, and the physician should be sure that the virus has been carried in a refrigerator and not exposed to heat.

7. Glycerinated vaccine is milder and slightly slower in action than other forms—the vesicle usually forming on the eighth day in primary vaccination, possibly as late as the tenth day. The formation of the typical vesicles should be considered as proof of successful vaccination.

Preservation of Vaccine.—Vaccine should be kept on ice until used.

Vaccine not kept at low temperature soon becomes inert and will not "take."

Extensive studies in the Mulford Laboratories show that:

Vaccine kept at 140° F. for five minutes is killed.

Vaccine kept at 98° F. for three or four days is dead. (This body temperature is about the temperature at which the vaccine would be kept if carried in the pocket.)

Vaccine kept at 70° F. for one to three weeks is weakened but not dead.

Vaccine kept at 50° F. for three to six months is still active. (This is about refrigerator temperature.)

Vaccine kept at 10° F. for four years is still active.

The lesson is: Keep vaccine in the refrigerator until used. Don't expect to get "takes" from vaccine that has not been kept at a low temperature.

Vaccinate during the spring and winter months whenever possible.

The Mosaic Unloosed Shoe and Divorce.—There is a Mosaic requirement for marriage with a deceased brother's wife, states *The Urologic and Cutaneous Review*, March, 1921, for not obeying which Onan was slain, which has a strong influence on certain orthodox Jews. Some years ago a widow went from the United States to South Africa to carry out the ceremony of offering to marry her brother-in-law and then having his shoe unloosed. It is really a sur-

vival of polyandry. The law as laid down in Deuteronomy XXV, 5-10, is as follows:

"If brethren dwell together and one of them die and have no child, the wife of the dead shall not marry without unto a stranger; her husband's brother shall . . . take her to him to wife and perform the duty of a husband's brother unto her. And it shall be that the first born which she beareth shall succeed in the name of his brother which is dead, that his name be not put out of Israel. And if the man like not to take his brother's wife, then let his brother's wife go up to the gate unto the elders and say, My husband's brother refuseth to raise up unto his brother a name in Israel; he will not perform the duty of my husband's brother. Then the elders of his city shall call him and speak unto him: and if he stand to it and say, I like not to take her; then shall his brother's wife come unto him in the presence of the elders and loose his shoe from off his foot and spit in his face and shall answer and say, So shall it be done unto the man that will not build up his brother's house. And his name shall be called in Israel the house of him that hath his shoe loosed."

While Deuteronomy is ascribed to Moses, the intrinsic evidence is that it was written much later. In a recent case a Jew asked the Supreme Court of New York to annul a marriage because his wife brought it about by false statements.

The fraud alleged is that the wife represented that she had "observed, aided by, and gone thru a certain Jewish orthodox religious practice which requires a widow who has never had children, and whose deceased husband has a brother surviving, to ask said brother of the deceased husband to marry her, and if said brother is either unwilling or unable, the required ceremony is for the widow to remove his shoe with a certain ceremony."

As the parties were married by the orthodox Jewish ritual the deceit would be sufficient for divorce.

The Results of Familial Syphilis.—The families of syphilitic patients admitted to the Psychopathic Hospital have been examined as a routine procedure. The patients are all in the late stage of the disease and are divided into three groups: (1) general paresis, (2) cerebrospinal syphilis, and (3) late syphilis without involvement of the nervous system. This division is made to determine if the familial problem is different in cases of central nervous system involvement from those in which the central nervous system escapes. The families of 555 syphilitic patients were examined and the following findings were obtained:

1. The family of the late syphilitic abounds with evidence of syphilitic damage.

2. At least one-fifth of the families of syphilitics have one or more syphilitic members in addition to the original patient.

3. Between one-third and one-fourth of the families of syphilitics have never given birth to a living child. This is much larger than the

percentage obtained from the study of a large group of New England families taken at random which shows that only one-tenth were childless.

4. More than one-third of the families of syphilitics have accidents to pregnancies; namely, abortions, miscarriages, or stillbirths.

5. The birth-rate in syphilitic families is 2.05 per family; whereas the birth-rate in the New England families mentioned above is 3.8 per family, or almost twice as great.

6. Two-thirds of the families show defects as to children (sterility, accidents to pregnancies, and syphilitic children).

7. Only one-third of the families show no defect as to children or Wassermann reaction in spouse.

8. About one-fifth of the individuals examined show a positive Wassermann reaction; more of these are spouses than children.

9. Between one-fourth and one-third of the spouses examined show syphilitic involvement.

10. Between one in twelve and one in six of the children examined show syphilitic involvement.

11. One-fifth of all children born alive in syphilitic families were dead at the time the families were examined. This does not differ materially from the general average in the community.


12. One-fifth of the pregnancies are abortions, miscarriages, or stillbirths, compared with less than one-tenth of the pregnancies in non-syphilitic families.

13. The average pregnancies per family is 2.58, compared with 3.88, 4.43 and 5.51 in non-syphilitic families.

14. There are 3.52 stillbirths per 100 live births in the syphilitic families, as compared with the 3.79 reported by the Massachusetts Census, showing that there is no very marked difference in this regard.

15. A syphilitic is a syphilitic, whether his disease is general paresis, cerebrospinal syphilis, or visceral syphilis without involvement of the central nervous system, and the problems affecting his family are the same in any case.

The family of every syphilitic patient should be examined, irrespective of the stage of the disease or the symptomatology presented by the patient when first seen. If this is done, cases of conjugal and congenital syphilis will be discovered which would otherwise be neglected. They will often be found at a period when symptoms are not active, and thus treatment may be instituted before irreparable destructive lesions have occurred. An opportunity is offered to prevent the development of such disabling condition as general paresis, tabes dorsalis, aneurysms, and the like. The possibility of bearing healthy children may be increased. Every clinic dealing with syphilitic patients, whether it is primarily a syphilitic clinic, a neurological clinic, a cardiac clinic, or an internal medicine clinic should be equipped with the machinery for bringing the members of the syphilitic's family to the clinic for examination.—*Social Hygiene* quoted in *The Urologic and Cutaneous Review*, March, 1921.



NEWS NOTES AND ANNOUNCEMENTS

U. S. Public Health Service Gets Rutland Sanatorium.—The model tuberculosis sanatorium nearing completion at Rutland, Mass., originally established by the New England Sanatorium Association, has been leased for a term of years by the U. S. Public Health Service. Within two months it is expected that the sanatorium will be able to accommodate one hundred patients and it will ultimately care for 300. The plans under which the sanatorium is now being enlarged have been approved by the U. S. Public Health Service and by the architect of the National Tuberculosis Association on duty with the Public Health Service. The finished building will be the last work in modern tuberculosis construction; the surroundings are ideal; and the tuberculous service men who will shortly fill this hospital will be assured of the best that modern science can provide.

Post-Graduate Medical School Scholarships.—The New York Post-Graduate Medical School and Hospital announces that there will be available this year six scholarships under the terms of the Oliver-Rea endowment. The purpose of the endowment is to award scholarships to practicing physicians of the United States to defray in full the expenses of tuition at the New York Post-Graduate Medical School. According to the wishes of the donor, physicians in the State of Pennsylvania will receive preference in the award of these scholarships. Applications may be sent to the president of the New York Post-Graduate Medical School and Hospital, Twentieth St. and Second Ave., New York.

Repeal Law Providing for Registration of Drug Addicts.—The following statement was issued by Commissioner Walter R. Herrick on February 10:

Special Rules and Regulations for the City of Greater New York having been promulgated by me taking effect June 25, 1919, providing for the registration of all drug addicts in and for the City of Greater New York pursuant to the authority conferred upon me by Chapter 639 of the Public Health Law, article 22, section 421 thereof; and the necessity for such registration having been eliminated by regulation No. 12 of the new rules and regulations of this Department prohibiting the use of unofficial blanks by physicians issuing prescriptions for or administering or dispensing co-

caine, opium or their derivatives and by regulation No. 16 requiring data concerning prescriptions for habitual users to be inserted on the official blanks, I, therefore, hereby revoke and repeal the aforesaid Special Rules and Regulations for the City of Greater New York requiring the registration of all drug addicts promulgated on June 25, 1919, to take effect February 14, 1921.

Syphilis and Insanity.—That syphilis causes a substantial percentage of existing insanity has long been recognized, but heretofore definite statistics bearing on the subject have been meager. To supply this need the U. S. Public Health Service queried the superintendents of 159 state hospitals for the insane in regard to the number of inmates who had become insane by reason of the disease. Of the 115 replies received, 88 supplied data that could be tabulated; and from this, it appeared that 15.5 per cent. of admissions and 6.2 per cent. of inmates among the men and, correspondingly, 6.1 and 2.2 per cent. among the women were directly due to the disease. The excess in the percentage of admissions over inmates is due to the comparative short life of those who became insane by reason of the disease.

Decreased Danger in Traveling.—Within the last year the danger to railway travelers of infection from typhoid fever, dysentery and other water-borne diseases has been reduced to a minimum in most parts of the country thru the cooperation of the U. S. Public Health Service with the different state boards of health. Nearly all supplies used on trains for drinking or cooking have been tested by service engineers and found to be safe, and will be reinspected periodically.

Woman Reaches Ripe Age of 109.—Mrs. Mary Fischer, who would have been 110 years old next May, died of old age in Chicago on February 11. She was born in Poland in May, 1811. Her faculties were clear until a few hours before death.

Venereal Disease and Accidents.—One of the largest telephone and telegraph companies in the United States has discovered that compensable accidents that happen to its employees bear a marked relation to the incidence of venereal disease. A large proportion of accidents to linemen, for instance, have been found to mark the beginnings of locomotor ataxia, a diagnosis which is almost always camouflage for syphilis.

Dies at Age of 111 Years.—Joseph Mantell died in Toronto on February 1 at the age of 111 years. He was born in England and came to Canada eighty-two years ago.

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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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The Point of the Pint.—The projected rules and regulations concerning the prescription of beer, now await the approval of the new Commissioner of Internal Revenue to be appointed by President Harding. By some unknown mathematical system it has been provided that a maximum of $4\frac{7}{8}$ gallons of beer or 3 gallons of wine may be prescribed for a patient in one month by one physician. It is not permitted to a patient to secure prescriptions from more than one physician at a time. There is small comfort in the fact that patients are held responsible for remaining faithful to the original prescriber.

The quantity designated merely represents the maximum quantity of liquor that may be prescribed by physicians and fortunately is not mandatory as a regular dosage. Similarly, there is small comfort that with physicians, the druggists are to be held to strict accountability for filling prescriptions, with the responsibility "to prescribe and sell no more such liquor than may be necessary for the relief of the patient from a known ailment and not for beverage purposes."

It would appear unnecessary that such types of restrictive counsel be given to physicians. In reality it is a sad and unfortunate state of affairs when governmental authorities regard it essential to dictate the medical responsibilities or policies of physicians in the management of those who are ill. The necessity is totally lacking, for the

great majority of practicing physicians are conscientious in the practice of medicine and thoroly informed concerning the real values of various forms of alcoholic beverages. A considerable percentage of the medical profession has refrained from securing licenses permitting the prescribing of alcoholic beverages because of a conviction of their more or less limited utility, despite their traditional use for many years. Nevertheless, it has been hoped that some "test case" would arise to determine the rights of physicians in prescribing alcoholic products in accordance with their honest beliefs.

A "test case" has arisen in New York wherein a physician has directly violated all the rules and regulations, having prescribed more than the regular pint per ten days, given more than one prescription for whiskey to the same person within twenty-four hours and finally prescribed whiskey for himself in order to overcome the effects of a septic and painful tooth. From the description in the public press of the methods of this particular practitioner, his case hardly offers a fair test as to the fundamental rights of physicians. The evidence, on the contrary, is strongly suggestive of an abuse of the laws, and a lack of willingness to abide by reasonable regulations that are not concerned with the treatment of patients. If the testimony as reported be accurate, there can be no justification for the pre-

scription of two quarts of whiskey at one time to a patient alleged to be suffering from colic. There was also a strong suspicion of an overt disregard for the law when each of thirty-three hotel employees received prescriptions for one pint of whiskey on one day, just before Christmas. Such marked deviations from the regulations make it difficult to establish their unreasonableness. The revocation of the doctor's permit to prescribe alcoholic drinks, under such circumstance, could scarcely be regarded as a complete justification of the government's position, but rather as a natural and proper consequence of his determined effort to set at naught the regulations designed to safeguard the profession from the charge of over-prescribing alcoholic beverages on insufficient grounds.

Regardless of the outcome of this specific "test case," the real question will not have been determined, namely: How far may governmental bureaus interfere with the legitimate practice of medicine, involving the use of alcohol, for actual sufferers from acute devitalizing diseases?

If an epidemic of influenza with pneumonia were to recur, it is not at all improbable that the force of public opinion and the demands of practitioners would immediately secure a release from the severity of the present regulations. It will be recalled that two years ago when influenza and pneumonia were taking their dreadful toll, alcoholic beverages were shipped into dry states without very much opposition or restriction. In fact, there was a temporary suspension of the regulations to allow physicians to meet emergency conditions. This is not mentioned to substantiate theories concerning its value, but merely to point out how circumstances alter cases and how the presence of an epidemic disease alters attitudes of

persons towards specific types of too restrictive legislation.

If alcohol possesses real therapeutic value in the treatment of the sick, which not a few competent, conscientious doctors earnestly believe, its usefulness should not be determined by a fiat order that cannot be individually applied without the intervening judgment of a physician. Pandering to alcoholic habits is not only undesirable—it is most reprehensible. Dispensing needlessly, and for conditions wherein it is recognizedly of no service, is to be deprecated. The real question at stake lies in determining who is to be the judge of the need and the amount—as well as the type of alcoholic beverage which is to be prescribed. Is the maximum pint in ten days always adequate in the management of pneumonia, especially in certain classes of patients regardless of the authority of the regulation? The law apparently recognizes the use of alcohol as a medicament; otherwise, authorizing physicians to prescribe for medicinal purposes is purely a subterfuge to enable medical men to act as the national bartenders. If alcohol lacks all medicinal value, then all physicians should be required to abide by a decision thus far not promulgated, namely, that even physicians may not prescribe alcohol for any purpose whatsoever.

The whole situation resolves itself down to the fact that the practice of medicine by regulations issued by government bureaus is not to be accepted as intelligent, scientific, or humane.

If a bureau with the force and power of a statute can decide upon the maximum dosage of alcohol, in the form of whiskey or beer, it may equally establish the rules for the administration of mercury, ipecac, codeine, jalap or oil of santal.

It is to be hoped that some judicial opinion may be secured that will for all time settle this important phase of present-day practice, even if alcohol must serve as the reason for the institution of the "test case."

Insurance, A Public Health Factor.—Tangible facts concerning the benefits of public health nursing, coupled with instruction in the art of hygienic living, are always welcome. The experience of the Metropolitan Life Insurance Company, whose medical social program is of an exceedingly high type, indicates the benefits that could be made available to all people of this country.

That there were 38,000 fewer deaths among Metropolitan Life Insurance industrial policy holders in the United States and Canada during 1920, than there would have been if the 1911 death rate had prevailed, is by no means as significant as the fact that the death rate among their policy holders decreased far more rapidly than did the death rate for the general population of this country. It is noteworthy that the death rate of the policy holders in 1920 was 23% lower than it was in 1911, the death rate from tuberculosis 40% lower, from typhoid fever 72% lower, from acute contagious diseases of children 28% lower.

It is evident that these percentile decreases, far greater than those benefiting the general population of the country, represent a number of different factors. The item of selective risks plays comparatively little part in industrial insurance in so far as contagious diseases of children are concerned, and certainly less in so far as typhoid fever may be anticipated. A relatively small protective benefit may be achieved by virtue of the physical examinations that lead to the rejection of tubercu-

losis suspects. The general benefit of the examination to the company is recognized, but there is little reason to believe that this in itself could be responsible for the tremendous improvements in mortality, particularly in view of the general upset of public health, incident to the influenza epidemic of 1918, '19 and '20. Furthermore, the value of the preliminary examination of policy holders of the industrial group possesses little virtue beyond a reasonable guarantee to the company of the health potentials for a period of from three to five years. Under these circumstances, therefore, the marked advantage to the life insurance company is apparent thru the tremendous reduction of its mortality rates.

The policy holders, patently, gain, because of their higher standard of health, and in all probability secure financial benefit thru a reduced premium based upon a revised actuarial experience. All the policy holders have had the opportunity of enjoying the normal public health education offered by their respective states, and communities should, in addition, have had the advantage of more or less personal education in health and the more practical benefits of visitation by trained nurses during illness. There is something startling in the statement that more than 2,000,000 cases of illness have had the resourceful and helpful care of visiting nurses during a period of eleven years, while over 215,000,000 pieces of health literature have been distributed to policy holders thru its agency staff.

These practical demonstrations of results, with a hint at the main methods, convey a powerful and stimulating lesson to communities which, thru cooperation, might convey similar messages of hygiene and health to the general public. Not alone have the insured of the insurance companies

profited, but the communities themselves have had their vital assets increased and their health standards raised. The decrease of mortality is indicative of a decrease in morbidity, and more important is an evidence of a decrease in the number of personal foci in themselves and communities. Whatever raises the health line of a family, to an equal extent must influence adversely the existence of morbidity. Certainly in communities where acute infectious diseases of children are reduced below the general rate of reduction for the population, the community rate is lower than it would have been, had not the efforts of the insurance company affected the greater decline of the deaths among its policy holders.

There is no intention of advertising any particular insurance company, but there is every advantage in stressing the contribution of intelligent preventive health work under the auspices of a socially-minded insurance organization. Increasing family health is a legitimate phase of the insurance program and must be considered not merely in its broad, social aspects, but in its relation to insurance economics. But these economic problems are of far more serious moment to the individuals insured and their dependents.

The saving of human life and the methods whereby this may be attained command attention and deserve emulation, particularly when their fundamental items consist principally of methods of education and a provision of bedside nursing. This is a simple matter which is not costly and may be introduced in any community where there is a real urge to lower the mortality rate.

issued a statement regarding chiropractic in which emphasis is placed upon the failure of the principles of chiropractic to accept as facts that large body of scientific investigations of proven value which constitute the fundamentals of public health service. That chiropractic ignores and repudiates modern scientific knowledge and methods should be sufficient to cause a reaction in the minds of an intelligent public against its absurd claims.

One might ask what is responsible for the growth of chiropractic, and why the demand for chiropractors is such that the Palmer School states: "The time is undoubtedly come when there will have to be a chiropractor for every 2,000 people" According to the same authority there were in 1920, 6,220 chiropractors in the United States distributed among 46 states of the Union and varying in number from two in Louisiana to eight hundred and twenty-two in California and eight hundred and thirty-three in New York State. A large part of the answer as to popularity is based upon gullibility and applied publicity methods plus a disregard of laws and a total failure to consider the qualifications of students or the public health needs of communities.

An alleged chiropractic college is frank enough in its bulletin to list a Board of Publicity and Propaganda, while the announcement of the "Chiropractic Fountain Head" offers a course in salesmanship. From this latter one gains the information that salesmanship teaches them to disperse of their own services, as even with some knowledge an individual may be unsuccessful because of personal inability to sell it. "A special diploma on personal efficiency is granted upon satisfactory completion of this course, which because of the work it stands for is a valuable asset to the office of any

Chiropractic Publicity—New Spines for Old.—The Public Health Committee of the New York Academy of Medicine has

chiropractor." An outline of the lessons (twenty in number) deals with personal magnetism, business relations, advertising and various other topics, but there are two which are very striking—number 16 "Selling the Patient" and number 19 "Keeping Yourself Sold." There is a double meaning in these topics, which probably tells much of the truth concerning chiropractice and chiropractors.

Fully one-half the states of the Union have courses legalizing chiropractice, and the Universal Chiropractors' Association is willing to do pioneer work by invading states like New York, wherein difficulties may arise from violation of the laws which do not give them recognition. As mysticism and quackery have ever been sold to a susceptible and unthinking public, so the keynote of the chiropractic group has been to advertise, propagandize and utilize methods that will get results, regardless of consequences short of personal injury or death.

It is a sad commentary on medical practice that it should be necessary for physicians to participate in any movement tending to safeguard the public against letting down the bars for the treatment of human beings in this age and generation. One would almost imagine that the experiences of the public, with the benefits originating in modern scientific preventive medicine and intelligent health administration, would have sufficed to enable people to recognize the difference between the true and the false, the honest and the deceitful, the conscientious public servant and the commercial exploiter. It seems more ridiculous that state legislators for political reasons or because of organized propaganda and advertising should betray the public health movement by recognizing and admit-

ting to practice any group of persons lacking the basic knowledge essential for protecting the public welfare. It is equally interesting that in the face of an epidemic, a catastrophe or an emergency, the appeal for aid and assistance does not go to the drugless healing cults, nor to the spinal lever coterie, but to the regular old-fashioned doctors who have ever been found dependable and trustworthy.

It is a peculiar contradiction of ideas to worry about the possibility of America's infection by imported plagues, on the one hand, and to pass state laws admitting to practice individuals who deny the contagion of such diseases and who are unfamiliar with their symptomatology or treatment. Why not turn over the quarantine problem to the chiropractors? The pre-natal clinics and the industrial hygiene and medical inspection of schools, if they represent a real, protective barrier for the public? The originator of chiropractice was a magnetic healer, and he simplified medical practice to a single column before columnists were popular. There is much reason to believe that the spinelessness of so large a part of the population suggested the spinal column as the most desirable leverage for extracting magnetic ducats for the healer, which thus allies chiropractice to chiromancy.

Incomes and Health.—Among the factors entering into the improvement of public health, due consideration must be given to the improved standards of living which have arisen, in part thru education, but more particularly because of an improvement in the economic status of the workers of the country. While it is true that wages are dropping, prices have also fallen and much more rapidly. The period of unem-

ployment has been less disastrous because of the fact that higher wages had obtained for a period of years and savings had not been exhausted before the onset of the industrial crisis.

A study of income tax returns indicates a large increase in the number of persons whose incomes place them in the class of the moderately well-to-do, and there is a corresponding decrease in persons of large incomes and in the amount of their incomes which they are permitted to retain for the satisfaction of their needs. Whereas in 1917 there were only 838,707 persons returning reports on incomes between \$2,000 and \$3,000, in 1918 this number had increased to 1,496,878. During the two years there was an increase of almost one million persons who paid an income tax and this increase was principally in the group with incomes between \$2,000 and \$10,000.

The general health and welfare of the community is not greatly dependent upon the number of persons possessing a taxable income of over \$10,000, as approximately only 160,000 such returns were made during 1918. It is significant, however, that approximately three-quarters of the income returns in 1918 were for incomes between \$1,000 and \$3,000.

When, however, it is realized that the total number of income tax returns for 1918, the basis being \$1,000, only covered about 20 per cent. of our population, it is patent that 80 per cent. of the population of the United States or 16,000,000 families were unable to report an annual income of \$1,000 or more. This economic fact is of paramount importance in considering the degree to which families can take advantage of the advice and counsel which they are given for the maintenance of health. Herein lies a considerable part of the health problem.

In view of the fact that wages are decreasing while rents are advancing, there is grave reason for giving thought to the effect that this disparity between income and rent may have upon the problems of food, clothing, recreation, dental and medical services. The economic phase of familial health is a fact which is not to be ignored. There is no limit to the potentials of education but there is a decided handicap to the adoption of the highest standards of health when there is an inadequacy of income that forbids its achievement.

Whether one considers house congestion, the dissemination of contagious diseases, the development of malnutrition, the spread of tuberculosis, the hazards of industry, the growth and development of hospitals and dispensaries, the advance of medical care in the home, one is obliged to take cognizance of the financial situation of the people. The greatest urge towards social medicine arises from the economic inadequacy of the population. The large proportion of the population which is endeavoring to subsist and find contentment on an income of under \$1,000 a year, constitutes the real problem in social medicine. The growth of dispensaries, pre-natal stations, babies' clinics and social insurance are closely interrelated with the recognition that poverty demands the interest and attention of the community as well as the lower standards of education in many families of the same group. It is true that health education has not arrived at its highest potential in any single community, nor is it sufficiently widespread thruout the country to determine what its ultimate accomplishments will be. It is safe to say, however, that when the educators have fulfilled their destinies with the greatest efficiency, there will still be a falling short of anticipated accomplishment because of the

persistence of a low economic status for a large part of the population. It is for this reason that the incomes of communities should offer considerable food for thought in the determination of public health policies. The established figures of minimum wage boards deserve recognition and health administrators should be more insistent upon their adoption as a means of enhancing the health of communities.

If money has been regarded by some as the root of all evil, it may also be recognized as the root of much good, and this applies particularly in the field of public health.

Rat Eradication.—The attack upon specific disease problems thru the medium of special organizations has been recognized as being particularly efficient. The societies concerned with the conservation of vision, the control of cancer, the prevention of tuberculosis, the establishment of mental hygiene and the repression of venereal diseases have pointed the way in which organized plans for the education of the public may be developed. The power of public opinion is essential for validating theories that must be transmuted into practice.

As far as public welfare is concerned it is immaterial whether the general mass of the population be familiar with the atomic law or understand the Einstein theory any more than an appreciation of Ehrlich's side-chain theory or the mathematical basis of determining correlations is essential for health. Such accepted facts, based upon proven scientific theories and formulæ do not function in the daily life of people in such a manner as to affect positively or negatively their health or happiness. It is essential, however, for the mass of the population to grasp the significance of cleanli-

ness, hygiene and prophylactic methods, because only by so doing are communities able to protect themselves. Mandatory legislation is inferior to voluntary performance.

The occasional incidence of bubonic plague in the United States suffices as a reason to spread information concerning the part that rodents play in the dissemination of disease as well as the financial wastage due to their depredations. For this reason, it is opportune that there has been established the American Society for the Eradication of Rats which is affiliated with the Vermin Repression Society of London. The inauguration of this new educational activity is distinctly important and its plan for a national campaign of enlightenment concerning rodent parasitism merits commendation. Thru the medium of motion pictures, the press, pamphlets, lectures and other educational channels, the millions of this country will receive requisite information concerning rats in such a form that there will be generated a willingness and a desire to promote their extermination.

Fortunately there is no line of approach in public health which does not cross at many points many other lanes leading toward the health goal. In the campaign against rodents the public health movement will receive another general impetus, and while the parasites form the center of attack, there necessarily will be a general urge for the improvement of sanitary conditions. There will be a drive that will involve the better control of garbage and manure, the care and handling of foods, and the adequate fire protection of buildings. These indirect benefits will naturally follow, despite the fact that the propaganda is directed towards rats. It is because of both the direct and indirect benefits of this move-

ment that the American Society for the Eradication of Rats deserves to be recognized and it should receive the support of the medical profession and the community.

Fly Time.—Fly time is again at hand and the ubiquitous house fly should be receiving maximum attention. If fly swatting is not begun in the early spring to remove the early arrivals, reproduction on an extensive scale will preclude the success of fly swatting campaigns.

The Anti-Fly Crusade is more important this year in view of the necessity for extremely careful sanitation because of the desire to safeguard the public against all the diseases in the dissemination of which flies are involved. Health hazards that are complicated by present-day immigration demand particular vigilance so that flies and other disease bearers may be less able to endanger communities. The campaigns against the "typhoid fly," as Howard terms it, possess peculiar interest at this time because summer resorts are preparing to care for their countless thousands who seek rest, change of scene and renewed activity without increasing their exposure to infections.

It may be recalled that Maine courts have decided that patrons of summer hotels are to be protected against flies and that establishments failing to protect food from such insect contamination are liable to their guests. A wider knowledge of this decision may spur the managements of summer resorts to protect their dining rooms from the invasions of flies, which are not merely repulsive but dangerous because of their possible bearing of disease and filth.

The obnoxious character of flies and their breeding places are too well known to require comment. Their unwholesomeness in the

home and their threatening activities in the hostelrys indicate the importance of attacking their breeding places at the earliest possible moment. To emphasize or stress fly swatting is to underestimate the breeding activity and persistence of flydom. Success requires that all conditions conducive to fly breeding be eliminated. The sanitation of manure and garbage is of paramount importance. Screening and cleanliness are far more efficacious in lessening the pestilential appearance of flies than the avid arm exercises of small children who are paid a price per hundred or per pound for flies effectively massacred.

It is not improper to call attention to the importance of anti-fly crusades in connection with institutions catering to the public health, whether in the form of eating places or shelters for the care of the acutely ill. Hospitals and dispensaries that failed to recognize the menace of fly-borne contagion are lacking in judgment as exponents of modern sanitary medicine. There is no excuse for the fly in the hospital or dispensary and its presence there calls to mind the reference to the same animal in the ointment.

The part that flies play in the dissemination of disease has not been determined completely, but there is sufficient evidence to assert its complicity in the spread of tuberculosis and typhoid fever and to warrant a reasonable expenditure of money for palliating or exterminating this nuisance. The extent to which the flies are to be controlled during 1921 is to be based upon the activities of health officers and private citizens during the months preceding June. Dead generations of flies during April and May are of greater service to the community than efforts to destroy similar numbers in

June and July. Now is the time to effectively attack the fly problem.

Eliminating Diphtheria.—Twenty-five years ago diphtheria antitoxin came into general use. There was great hope that thru its general employment diphtheria would be reduced to a minimum, in so far as its mortality rate was concerned. While it is true there has been a 90 per cent. decrease in the mortality from this cause, there appears to be a certain residuum of cases which have proved fatal, either because of late diagnosis, inadequate treatment, or incidental complication.

It is time that a change of point of view should become general. There should not be less stress placed upon the therapeutic value of antitoxin, but more emphasis placed upon the prophylaxis of diphtheria by methods other than that of immunization thru the use of antitoxin after exposure to the disease. The protection against the disease, as a result of antitoxin injection, does not last very long, and the repeated inoculations that would be essential make this method thoroly impracticable for immunizing children, save in isolated sections of the country.

Unfortunately, it is practically impossible to attack diphtheria carriers nor could cities give the requisite attention for the elimination of diphtheria carriers. Such carriers, however, are harmless in a thoroly immunized community.

In 1913 Schick published his experience with the test that bears his name, namely, a dermal reaction to small quantities of diphtheria antitoxin injected intracutaneously. In the absence of antitoxin or its presence in too small amounts to protect against diphtheria, a positive reaction ap-

pears within 24 to 72 hours at the site of injection, thus indicating the susceptibility of the individual to infection by diphtheria. Concerning the technicalities of the Schick reaction we are not concerned, but it is important that its practical value be recognized as a method of determining the immune and the susceptible individuals.

Experience has demonstrated that there is a certain degree of natural immunity in infants which gradually decreases from birth to the age of six months. From six months to three years, fully 60 per cent. of all infants give positive Schick tests, indicating their susceptibility to diphtheria. After the six month period those children who present a negative Schick test are found to show a continued immunity, as a result of which their certainty of freedom from diphtheritic infection is reassuring to the families and to the community. Further investigations have shown that the number of positive Schick reactions is greatest in rural communities and in private schools to which carefully protected children are wont to go. In densely populated sections of large cities, there appears to be a higher percentage of negative reactions, possibly due to the gradual induction of an immunity thru more or less continuous exposure to diphtheria contacts and resultant gradual infection with toxins, as a result of which immunity has been induced.

Developing Immunity to Diphtheria.—It being possible, therefore, to differentiate the immunes from the non-immunes, the attention of health administrators can be directed to those evidencing susceptibility and an active immunity can be developed by the use of antitoxin vaccine. Three injections of toxin-antitoxin made at weekly intervals suffice to call forth the production

of an immunity, the exact duration of which has not been determined, but in the light of experience it certainly appears to be more or less permanent. The failure of the initial three toxin-antitoxin injections to confer immunity makes it necessary for two further injections at the end of two months, providing that the Schick test has again resulted in a positive reaction.

By reason of the Schick test and the toxin-antitoxin injections, we are now possessed of a means of eliminating diphtheria. The failure of communities to utilize this procedure in the light of present knowledge may be regarded as indifference to the seriousness of the diphtheria problem or as a lack of willingness on the part of the community to grant the necessary appropriations to carry out this natural, efficacious method of controlling a dread disease. Its use and application in institutions is obvious, and the results, where it has been employed, indicate the completeness of the plan for wiping out diphtheria in children's institutions.

With the spreading interest in baby health stations, it should be possible to educate parents to the importance of Schick-testing infants at the age of six months with the immediate immunizing of those with demonstrated susceptibility. If this procedure were adopted, the rôle of the prophet would be simple: diphtheria would practically disappear.

The conquest of diseases proceeds by slow stages, and there arrives a time when people must be enlightened concerning the stage to which science has progressed. In the control of diphtheria epidemics, medicine has approached a practical step which assures safety for the race from the deadly diphtheria bacillus. The simplicity of the Schick test, its safety and the ease with which immunity may be induced in those

who are susceptible, marks the method as practical and invaluable. It is the greatest advance in the attack upon contagious diseases since the introduction of the anti-typhoid vaccine for the prevention of typhoid fever. In so far as its influence upon the welfare of infants is concerned, it represents an opportunity for ridding the world of diphtheria more simply and as certain as the method of vaccination introduced by Jenner. Not alone are deaths from diphtheria to be minimized but the presence of the disease is to be made rare.

Public Health Progress.—The attitude of a considerable number of physicians towards the development of social medicine has been based upon the theory that most of the plans proposed for ameliorating medical condition thruout the country are unnecessary. It is for this reason that the report on the Council on Health and Public Instruction of the American Medical Association assumes peculiar significance.

As reported by V. C. Vaughan, the Chairman in the *Journal of the American Medical Association*, December 4, 1920, the Council on Health and Public Instruction believes it desirable to form a model bill to make mandatory, instruction concerning the nature and transmission of communicable diseases in the public schools. Similarly, legislative action is contemplated that will lead to the institution of a course in epidemiology in normal schools and schools of education in our colleges.

The evidence of a desire for closer cooperation between the medical profession and laymen who are interested in public health is evidenced by the suggestion that state and local medical societies should organize sections on public health sani-

tation to which laymen interested in public health may be admitted. This plan of participation acknowledges the value of lay opinion, and pre-supposes a willingness to discuss public health questions upon a basis of equal interest, if not of reasonable equality in information. Certainly there should be no secrecy or limitation in membership in an organization aiming to advance public welfare, and desirous of establishing a vigorous public opinion founded upon scientific knowledge but requiring the support of laymen as well as physicians.

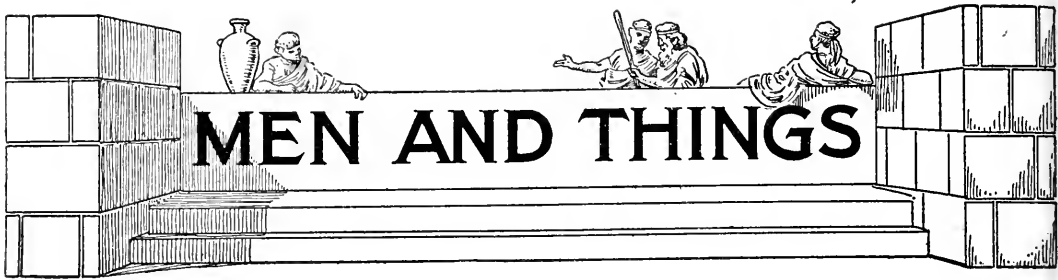
In the past, a large measure of initiative has been taken by the laymen, and it is patent that an effort is to be made to transfer the point of origin to medical, rather than lay societies. This is as it should be.

Most significant is the concluding paragraph of the report. "The Council on Health and Public Instruction believes that the American Medical Association should take steps to secure the following results: (a) To assist local medical practitioners by supplying them with proper diagnostic facilities. (b) To provide for residents of rural districts, and for all others who cannot otherwise secure such benefits, adequate and scientific medical treatment, hospital and dispensary facilities and nursing care. (c) To provide more efficiently for the maintenance of health in rural and isolated districts. (d) To provide for young physicians who desire to go to rural localities, opportunities for laboratory aid in diagnosis. (e) The Council believes that these results can be best secured by providing in each rural community a hospital with Roentgen-ray and laboratory facilities to be used by the legally qualified physicians of the community. The secretary of the Council was requested to study the laws of the different states bearing upon this sub-

ject and to prepare a model bill to be studied more fully at the meeting in March, 1921."

From this statement it is evident that scientific medicine is handicapped at least in rural districts, and that some means must be provided for overcoming the obstacles. There is an implied idea that state assistance or local support is to be secured thru mandatory legislation which will result in communal support thru taxation. Herein is a frank suggestion of the necessity of extending medical aid on the basis of a type of administration that has apparently shocked some groups in the profession who foresee difficulties in the establishment of institutions under state aid and auspices. It is true that the plan outlined makes provision for the use of institutions by all legally qualified physicians of the community, rather than having them in the employ of the state. It is beyond doubt, however, that the organization, administration and direction would necessarily be centralized under the auspices of the agency, local or state, responsible for the organization of the specific institution.

The most significant factor, however, is the practical admission of the need for the extension of scientific medical facilities for rural and isolated districts on the grounds that proper diagnostic facilities are lacking, as well as adequate medical, nursing, hospital and dispensary treatment. The recognition of this fact fully justifies the efforts of those interested in promoting rural welfare to secure the establishment of clinics and health centers as circumstances demand. These facts are by no means new, but they have not received, previously, such official sanction as is now given in this brief but stimulating report of the Council on Health and Public Instruction.



The Public Health Activities of the New York Academy of Medicine.—In past issues we have occasionally referred to the apparent indifference of many medical organizations to their special opportunities in behalf of the health and welfare of the people. No particular body has been mentioned, nor have we had any one association in mind. The general situation was what we wished to point out.

In making these remarks along the above lines, we have not been unmindful of the splendid work many societies have done. The recent annual report of the president of the New York Academy of Medicine, Dr. George David Stewart, affords an excellent illustration of this recognition of responsibility and indicates in no uncertain way what a body of earnest physicians can achieve for the public good. It shows, first of all, that each year the Academy is taking a more active and extended part in the health and related problems of the community, the state and the nation. Among the many problems that its Public Health Committee has considered during the past year are the following: (1) An exhaustive study of the dispensary situation has been concluded and published. As a result of this study a special committee under the auspices of the Hospital Fund has been organized to continue the work. (2) At a request of the State Industrial Commission, a committee has undertaken a study of the medical aspects—not political—of the Workmen's Compensation Act in New York State. (3) The committee, in preparing the scientific program of the Milk and Health Exposition held in May, 1920. Among other subjects which the committee considered and upon which it made records, are birth control, the Health Center bill, the way in which Federal grants for stimulating the Anti-Venereal Disease Campaign in the several states were used in New York City.

This report sets forth the needs of the Academy, more particularly of the library, and expresses the belief that if the public were aware of the valuable service of this institution to medical education and the study of public health problems the financial aid it deserves and needs would be forthcoming.

Combining Massage and Exercise.—

Albrecht Jensen, of New York, has written a book that cannot fail to be of interest to every physician who realizes the importance of systematic exercise. He describes a novel method of self-administered scientific massage movements combined with exercises, so that the benefits of both may be obtained simultaneously.

His book contains letters from two prominent New York physicians highly commending his system of exercises. They are Dr. Wm. Sharpe, Attending Neurologist and Surgeon to the Polyclinic Hospital, and Dr. Edw. L. Kellogg, Chief Clinician at the Polyclinic.

The author was formerly a medical student at McGill University, in Montreal, and also formerly in charge of medical massage clinics at the Polyclinic Hospital in this city.

The simplicity of the technic outlined, with its ready personal application, makes it possible for any individual to achieve excellent results from its use.

It is well known that the application of scientific massage stimulates the nerves, tissues, muscles, organs, vessels, glands and cells much more beneficially and effectively than general exercises. Their combined use, however, assures the maximum benefits of both.

In working out a practical presentation of this system, it was noted, according to the author, that the massage movements

and the most beneficial exercises could be combined readily and simply (altho this must be done in a prescribed way) and that their balanced, logical combination resulted in a method far superior to all other systems of exercises, not only for the maintenance of health, but for special therapeutic and physiologic purposes.

The exercises are chiefly intended for use at home, under the physician's direction, and the author claims they will be found to be more advantageous to the individual than any course of physical culture thus far developed. No gymnastic equipment is necessary and no expenditure, save that of the time required, which will vary mostly from twelve to twenty-five minutes daily, according to the time, need and inclination of the individual.

In reading this book, medical men cannot fail to be impressed with the soundness of the principles elaborated. Followed faithfully and intelligently, they are bound to do a great deal of good, and the author has rendered a real service to humanity. The price of the book is \$4.00.

The Narcotic Drug Situation More Confused Than Ever.—In its laudable attempt to place the narcotic drug law on a more effective and generally satisfactory basis, the legislature has apparently created a much more confused state of affairs. No less than three drug bills have been passed and are now before the Governor for his signature. Obviously, he will sign only one of these, and members of the medical profession are practically unanimous in hoping he will see the greater possibilities for good in the so-called second Lord Bill. The editor of the *Medical Record* well states the situation when he says:

"We have apparently not been following the law at all, but have been governed by arbitrary administrative opinions, and have been forced to observe certain rules and regulations which were not contemplated in the law itself and which, Collins points out in a recent communication, even acted in some instances practically to repeal the law. In other words, it seems that we have been governed, or allowed ourselves to be governed, by administrative opinion written into arbitrary rules and regulations, and

not at all by real administration of the actual law which was designed to have an entirely different effect.

"It is in tardy but growing appreciation of these facts that medical men are endorsing the Second Lord Bill, which retains the essential law as worked out from experience and legislative investigation and study, but which abolishes the Narcotic Commission thru which most of these difficulties and uncertainties have arisen, and nullifies the regulations and interpretations exercised by it which have worked out so harmfully.

"It is in the hope and expectation of restoring normal interpretation and the exercise of common sense that the Second Lord Bill is supported and urged upon the Governor for his signature. It is also in growing appreciation of the real causes of the present situation, with its recognized increase of criminal underworld smuggling and drug traffic and its driving of honest medical men away from their duties in the study and care of the deserving and innocent addicted sick, that there is such general opposition to the indefensible Fearon-Smith Bill. Its fallacies and menaces were so clearly shown in open hearing last year, when it appeared as the Cotillo-Smith Bill, that it was actually withdrawn by its introducer, Senator Cotillo. The viciousness of the present bill was demonstrated by a mass of reliable evidence at the hearing on March 6, and one cannot doubt that the Governor, after a study of facts of the situation brought out at this hearing, will refuse to sign any such measure. There are too many authoritative, disinterested, and informed persons—lawyers, physicians, and social workers—unalterably opposed to it in the interests of public welfare, of medical science, and the prevention and suppression of criminal traffic in narcotics to permit of entertaining the thought that Governor Miller could, if at all informed of all the facts, possibly consider the Fearon-Smith Bill.

"The only sane and reasonable solution of the problem is to enact the Second Lord Bill, if only as interim legislation, and then immediately to enter upon a thoro investigation and study of the scientific and other needs of the situation. The concluding paragraph of the report of the Public Health Committee of the Academy of Med-

icine is to the point. In this it was stated that the whole question of drug addiction needed a dispassionate thoroughgoing consideration in its various aspects on the part of the medical profession."

Work.—All work and no play thru years is a prominent factor in inviting the early appearance of old age, claims an editorial writer in the *Virginia Medical Journal* (Feb., 1921). The up-keep of the physical body would seem to demand a certain quota of one's time for muscular and recreative exercises. This era of competition and stress, tugging tightly at the cords of ambition and success, demands, if one is to maintain the advantage of physical well-being in the fifties, the regulation of one's hours of work, recreation and sleep on a plan consonant with fitness at that age.

With a fit body at fifty, one may enter the sixth and seventh decades alert and forelooking, being possessed of qualities of mind rich in the wisdom of varied experiences and ripened judgments, and there, in a rarer air, work upon life's problems for the benefit of mankind. So, above and beyond the battle of life, where contention and conflict rage in effort for position and power, the sixth and seventh decades afford one a breadth of view, a wider perspective, freer from narrowness, partisanship and strife, and secure for one's ripe manhood a realm of activity in which to fulfil the mission of life that finds its greatest fruition in service to society.

The Vitamines. Essential Factors in Health.—When Frink made his announcement that foods to be of nutritive value must contain certain vital substances which he called vitamines, he gave new impetus to the study of metabolism. Mysterious as these food elements were, their all-important relation to normal nutrition was well established. Recently, Osborne and Mendel of Yale, MacCallum of Johns Hopkins, and others (*New York State Journal of Medicine*, July, 1920) have greatly increased our knowledge concerning these accessory food factors, and given us some

very interesting facts in respect to their specific functions. From their work it is evident that the vitamines are indispensable to normal metabolism and health.

Recognizing the great importance of vitamines, the U. S. Department of Agriculture at Washington has sent out a bulletin on this subject, in which it points out that, at present at least, the vitamines are best described by what they do. This bulletin then gives condensed information that is well worthy of reproduction.

That the vitamines are compounds absolutely essential in the food, in order to maintain the weight of the body and produce growth, has been definitely proved. The lack of vitamines causes deficiency diseases, so named because they are due to lack of something in the diet. Vitamines are present and are needed in such small quantities in the food that chemists have not yet been able to isolate them from the many other compounds which are in foods. For this reason we know very little of the vitamines.

As stated by John, who is in charge of nutrition work in the Bureau of Chemistry, U. S. Department of Agriculture, vitamines have been classified into three different types, depending upon the functions which they have in promoting well-being and growth.

The first type is known as water-soluble vitamines, and these are necessary in order to obtain growth from food. Lack of these causes beriberi, which manifests itself by disease of the nervous system and by other symptoms. These vitamines are found in seeds, in green plants, in certain bulbs and fleshy roots and fruits, and in milk and eggs, as well as in certain organs in the animal body. The seeds referred to include beans, nuts, and the various cereal grains. When cereals are very highly milled in order to obtain a very fine white flour, a large part of the vitamines may be removed. Vitamines are also lost when rice is polished in order to remove the outer layers, which contain most of the vitamines. It is for this reason that a diet consisting mainly of polished rice may cause beriberi; while unpolished rice does not cause this disease.

The second type is known as fat-soluble vitamines, and these are found in butter, eggs, milk, and in certain animal organs such as the heart, kidneys, and liver, and to

some extent, in other fats, as well as in green vegetables. They also exist in smaller quantities in certain seeds. When fat-soluble vitamins are absent from the diet, animals and man are subject to a disease of the eyes, which appears to be related to xerophthalmia, and which, if prolonged, may produce blindness.

The third type is known as antiscorbutic vitamins—that is, those which prevent scurvy, which manifests itself by disease of the bones as well as in other ways. These vitamins are found in oranges, grapefruit, lemons, and other citrus fruits, and in green vegetables such as tomatoes, spinach, and lettuce, and in eggs and raw milk. The drying of vegetables frequently destroys the activity of the antiscorbutic vitamins. The best source of vitamins is in the leafy parts of vegetables, and this is one of the reasons why spinach, lettuce, and cabbage are valuable foods.

Formerly we estimated foods on the basis of their caloric value, but henceforth it is apparent we must measure their utility from the standpoint of their vitamin content.

No Hard-and-Fast Rules in Diet.—

Hygienic food reformers certainly do go to extremes in the matter of diet. They have so contracted the dietary field that some trusting followers have about gotten down to a chewing-gum diet. Let us remind them, says the editor of the *Medical World*, (February, 1921), that the constant mastication of that substance is apt to lead to cancer ("paraffin workers' cancer"). After a while, about all there will be left for the victim to eat will be the diet list itself.

School teachers vary in their advice to their pupils. Some say tea and coffee are poisonous, while others modify this statement with the proviso that if milk or cream are added to those beverages they become innocuous. Just how this scientific conclusion is arrived at we are not informed.

Truly the public likes its hygienic lessons in large, unadulterated, allopathic doses, and just naturally goes to extremes in any direction that the prevailing thought current happens to be blowing.

There is no hard-and-fast rule that can be followed. Aside from whiskey and like substances, we doubt if any food is alike

injurious to the race as a whole. That some people cannot endure the effects of coffee is true. On the other hand, many a post-prandial speech would have died unborn had it not been for the stimulating effect of that enticing beverage. Alcoholic drinks also favored volubility. We have known cases where that natural lacteal fluid, commonly called milk, has about the same mental effect upon the possible inhibitor as would a dose of ipecac or other nauseating concoction. Just so the humble murphy; the staple diet of the ancestors of many of our city politicians would disagree with some, in a manner calculated to put a Welsh rarebit to shame. Even the blushing tomato is not immune in some from a like result.

As a matter of fact, what some thrive on, others endure, and others gag on. Again, we know of people upon whose digestive systems deviled crabs exert no untoward symptoms, but who are unable to eat boiled eggs. Some refuse to eat tongue because it comes out of an animal's mouth, but can devour an egg with relish.

So it is with many drugs. Quinine in some people causes irritation of the nervous mechanism of the ear, and results in various noises; while in others it acts on the same mechanism of the intestines, and produces a laxative effect.

We think it was the Jew Shylock in the "Merchant of Venice" who said something about the price of pork. People will always have different appetites; and it is a good thing that that is so; otherwise, the world would soon starve to death. There would not be enough of grub to go around!

The Fourth Venereal Disease.—The venereal diseases are so generally looked on as three in number, namely, syphilis, gonorrhea and chancroid, that much interest will be aroused in Donovan's claim that there is a fourth one, which he terms a specific ulcerative and gangrenous balanoposthitis. In the February issue of the *American Journal of the Medical Sciences*, he describes the condition as an acute inflammatory disease of the glans penis and opposed surface of the prepuce, characterized clinically by ulceration and at times gangrene, with a copious flow of fetid pus.

and caused by the symbiosis of a spirochete and fusiform bacillus morphologically indistinguishable from those met with in Vincent's angina. Predisposing causes are (1) a redundant prepuce with tendency to phimosis, and (2) an unclean preputial sac with its decomposing smegma. The comparative frequency of the condition is shown by the fact that it constitutes two-thirds per cent. of the cases seen at the Hôpital du Midi. The period of incubation ranges from two to eight days. Subjectively there is a mild itching followed by constant burning pain in the preputial sac and extreme tenderness of the penis on manipulation. Exfoliation of the epithelium of the sulcus, prepuce, and glans takes place and is followed by ulceration. Edema of the whole penis, phimosis with heat and redness, and palpable dorsal lymph vessels are common. Bilateral inguinal adenitis is frequent, but suppuration does not occur. Constitutional symptoms are absent except in severe cases which are attended by prostration, fever, vomiting, etc. In cases with much phimosis, gangrene is liable to supervene unless proper treatment is instituted, but when there is no such phimosis the condition may subside spontaneously with the ordinary methods of cleanliness in two or three weeks. The disease is sometimes complicated by the coexistence of syphilis. The diagnosis is established by the presence of the spirochete and fusiform bacillus in the pus. Prophylaxis consists in the performance of circumcision. Cauterization is contraindicated, as it renders anaerobic conditions possible beneath the coagulated albumin. The following treatment is recommended by Dr. Donovan: A dorsal slit should be made in the phimosis so as to enable remedies to be applied and favor aerobic conditions; the sac should be irrigated every few hours with peroxide of hydrogen solution, and powdered salvarsan or neosalvarsan should be applied daily to the ulcers.

The Prevention of Venereal Disease.—

The Birth Rate Commission in England has appointed a special committee to study venereal disease from certain health and social standpoints, states the *British Med-*

ical Journal in its issue of November 20, 1920. The following questions are to be considered:

1. Whether sexual continence before marriage is consistent with normal health.
2. Whether self-disinfection as a method of preventing the development of venereal disease in those who have exposed themselves to the risk of infection is more efficient or less efficient than medical treatment at venereal clinics and early treatment centers.
3. The possible advantages and disadvantages of various suggested methods of self-disinfection (a) before, (b) after sexual intercourse.
4. Whether methods of self-disinfection involve any serious disadvantages of a moral kind—that is to say, whether they are calculated to weaken moral control, and thereby to lead to an increase in promiscuous sexual intercourse; and if so, to what extent these disadvantages should render the use and advocacy of self-disinfection undesirable when considered from the point of view of ultimate national welfare.

Considerable objection has been offered not only in England, but also in this country, to individual methods of prophylaxis, *i. e.*, the use of washes and antiseptics immediately after exposure and before infection can take place—on the grounds that the lessened fear of contracting disease is an encouragement to unbridled license and immorality. Such has not been found to be the case. From public health standpoints, a person who has had promiscuous sexual contact should be looked upon in the same light as a diphtheria contact. Instead of waiting for the appearance of disease, he should at once be given the greatest possible protection against the development of infection in his or her person. We understand that the Pennsylvania Department of Health advocates the foregoing, and if it proves as satisfactory as expected, it will undoubtedly become a widely adopted policy in the near future.

Our cover picture this month shows the office of the Surgeon-General of the U. S. Army in the Munitions Building in Washington.



ORIGINAL ARTICLES

THE ULCER SYNDROME WITHOUT ULCER.¹

BY

ALFRED C. CROFTAN, M. D.,

Chicago, Ill.

There has arisen a great discrepancy of opinion among internists in regard to the frequency of ulcer, its origin and nature, the significance and interpretation of the symptoms that make up the ulcer syndrome and in regard to the best methods of cure.

If we contrast the statistics, *e. g.*, of Riegel, who for years controlled probably the largest gastroenterologic material and who reported only 260 cases of ulcer over a period of 15 years, an average of 17 cases a year, or the figures of Campbell Howard, who observed only 0.5 per cent. of ulcers among 161,589 medical admissions, with the figures, *e. g.*, of Sippy (*Jour. A. M. A.*, May 15, 1915), who claims to have "from 15 to 30 and more private cases of peptic ulcer at all times" or of Smithies, who in a recent article (*Jour. A. M. A.*, June 5, 1920), reports one series of 2,168 "definitely proved and not clinically surmised ulcers" and another series of 522 gastric ulcers "proved actually to exist by objective data, namely, from surgical, Roentgen-ray

and pathologic studies" it will be seen how extreme these differences are. Here and there, recently, in each medical center a few men see enormous numbers of ulcer, the rest no more than before. The laity in the meantime have been educated to the ulcer fad. Nearly every dyspeptic comes with the diagnosis of ulcer and clamors for an ulcer cure. It is simple and also lucrative to accept this diagnosis, to put the patient thru a period of hospitalization and to give him a name for his ailment instead of an explanation. This factor, I believe, contributes very heavily towards the rapid increase in ulcer statistics in this country.

ORIGIN AND NATURE.

Gastric ulcer is not an ulcer in the ordinary surgical sense, but rather a defect in the gastric mucosa accompanied by necrosis. It is a local lesion of manifold origin. Frequently running along the course of an artery it suggests thrombosis. All factors that can produce occlusion of an artery in the gastric wall can produce gastric ulcer, hence gastric ulcer is occasionally of mycotic origin. The first reference to

¹ Read before the Chicago Medical Society, October 13, 1920.

this is by Letulle,¹ who produced ulcer by injection of bacteria derived from a case of dysentery and from cases of puerperal septicemia; then there is the work of Turck, who used colon bacilli to produce the same result; also of Rosenow, who claimed specificity for certain bacterial groups in the production of gastric ulcer, a contention that has not been proven. That bacteriemia is only an occasional cause of ulcer is shown by the rarity of ulcer in infectious diseases. What can be produced with bacteria can be produced by minute inorganic particles injected into the circulation as, for instance, wax particles, chromate of lead, etc.

Important and not sufficiently appreciated are certain nervous factors. Yzeran,² for instance, produced gastric ulcer by cutting the vagus below the diaphragm. Injury to the anterior corpora quadrigemina can, in animals, also produce ulcer. Finally, there is the suggestive idea of Stockton, that some ulcers are of trophoneurotic origin, of the nature of herpetic gangrene, hence possibly infectious, with the infective lesion in trophic centers of the spinal cord.

The popular acid corrosion theory is the least substantiated of all, unless hyperchlorhydria be accompanied by some interruption of the circulation in a circumscribed area of the gastric wall; and the latter condition can produce ulcer without hyperchlorhydria. Mechanical lesions, cuts, bruises and tissue defects heal with astonishing rapidity and are not retarded or impeded in their healing by the presence of large amounts of hydrochloric acid.

THE ULCER SYNDROME.

The orthodox symptoms grouped as the cases presenting some or all of the above

ulcer syndrome are pain, bleeding, changes in the gastric acidity and radiographic evidence.

Excluding from consideration the frank ulcer cases that present themselves for the first time with a violent hemorrhage or a perforation, that cause no diagnostic difficulty and which all belong to the surgeon, there remains a large number of suspect symptoms. It should be remembered, however, *first*, that many gastric ulcers run their whole course to hemorrhage, perforation, accidental discovery at autopsy or in the course of laparotomy, or to spontaneous cure, without any symptoms whatever; *second*, that, on the other hand, the whole syndrome may be present without ulcer.

Pain.—Pain, while it may be absent, especially in ulcers of the posterior wall, is the most common symptom. After excluding pain in the gastric region attributable to spinal disease (gastric crises), pain of angina abdominis in arterial sclerosis "reflex" pains from disordered organs in the thorax (pleurisy, decompensated heart) or abdomen (gall-bladder, appendix, colitis etc.), there remains a large group of cases in which it becomes necessary to distinguish between the pain of gastric neurosis with spasm and the pain of ulcer. This is generally difficult and often impossible. Spasm of the gastric wall determines more than any other factor the onset and the duration of the pain. In simple hyperchlorhydria and hypersecretion—and to this category belong most neurotic cardialgias—the pain usually appears when the stomach is empty and is relieved by eating. In ulcer uncomplicated by hypersecretion the pain appears shortly after the food is taken, reaches its maximum intensity at the height of digestion, and subsides when the stomach becomes empty. The former group

¹ Letulle: Origine infectieuse de certains ulcères simple de l'estomac et du duodenum, Compt. rend., 1888, Vol. CVI.

² Zeit. für Klin. Med., 1901, Vol. XLIII, 81.

eats to stop pain, the latter fear to eat. If high degrees of hypersecretion with hyperchlorhydria complicate ulcer the pain may be continuous. Ulcer pain appears more regularly, while in gastric neuroses pain-free periods are more common.

The localization of the pain may offer some clues in the differential diagnosis between ulcer and neurosis pain. In the latter, the pain is usually diffuse with its maximum intensity in the pyloric region (spasm), in ulcer it is more commonly circumscribed either spontaneously or on pressure, unless the ulcer is on the posterior wall (a very common location) when the pressure point may be altogether absent. Ulcer pain is generally aggravated by deep pressure, the pain of gastric neurosis relieved by pressure; the latter is often a surface pain corresponding to the outline of the stomach, the area occasionally increasing with distention of the stomach. Radiation of the pain offers no useful clues; in either condition the pain may radiate to almost any point of the abdomen, chest or back or there may be no radiating pain at all.

Hemorrhage.—Bleeding occurs in fully 25 per cent. of all ulcer cases, that is, one or more gross hemorrhages in frank ulcer cases. A large proportion of ulcers, on the other hand, run their whole course without any clinically manifest hemorrhages. Hemorrhage due to acute gastritis, violent vomiting spasms, from varices due to disorders of liver, pancreas, spleen and other forms of gastric hemorrhage resulting from disease of remote organs must first be excluded. Then it must be remembered that in extreme hypersecretion erosion of the gastric mucosa is common; that violent spasm of the gastric wall, both experimentally and clinically can produce ooz-

ing of blood. The appearance of traces of occult blood in the stools must, therefore, be most conservatively interpreted as signifying bleeding from gastric ulcer. If all of the above causes, as well as lues, carcinoma, tuberculosis, etc., can be excluded, then, the appearance of traces of blood pigments in the stools after a prolonged period of blood-free diet attains the dignity of a sign of value in the diagnosis of gastric ulcer.

Gastric Acidity.—Ulcers are frequently accompanied by hyperacidity, but more frequently they are not.¹ We recognize nowadays that there are extreme "normal" variations in the hydrochloric acid flow of the stomach, fluctuating with the time of day, the character of the food and the nervous state of the individual. Similar fluctuations occur in the stomach of an ulcer patient, the majority of ulcers running their course with normal or even sub-normal acid values.

Radiographic Evidence.—Interpretation of fluoroscopic views and of plates requires a high grade of expert skill and very wide experience. With rare exceptions these findings, even when interpreted by an expert, are suggestive rather than conclusive and my experience has taught me to be exceedingly conservative in utilizing radiographic reports. The following rules I have found to be safe, *viz.*:

(1) An ulcer crater or passage of barium thru the stomach wall is direct and conclusive evidence.

(2) Pyloric obstruction, or hour-glass, not disappearing under atropine (as in pylorospasm from neurosis, gall-bladder or duodenal lesions) is highly suggestive.

(3) Shadow defects (induration) ob-

¹e. g. Rehfuess & Hawk. *Journ. A. M. A.*, August 14, 1920.

served repeatedly in the same place are indirect contributory, but not determining factors in the diagnosis. Induration represents chronic inflammatory repair tissue and may mean an old scar and not an open ulcer.

(4) Variations in the tone of the stomach and abnormal peristaltic movements should not be utilized in ulcer diagnosis.

THE PATIENT AND THE ULCER.

It will be seen from the above consideration of ulcer etiology and from the evaluation of the ulcer syndrome how difficult it is in most instances to establish positively the presence of ulcer, above all to distinguish between ulcer and a gastric neurosis.

There remains the therapeutic diagnosis. The question has to be met whether the ulcer or the patient should enjoy the benefit of the doubt; whether one should assume the existence of an ulcer in every doubtful case and treat this "ulcer" or whether one should assume a functional disorder (vagus neurosis) and treat the patient, basing the ultimate decision upon the therapeutic result.

The former method is more academic, possibly more scientific, the procedure of a naturalist; the latter more human, more practical, the function of a physician. The treatment of the two conditions, moreover, especially if hyperchlorhydria supervenes, is essentially similar as far as rest, diet and drugs are concerned. In deciding upon hospitalization it is necessary to individualize, some patients taking kindly to the "hospital circus" as it is played nowadays, others detesting it.

The manifestations of gastric neurosis are fatigue symptoms affecting the nervous apparatus of the stomach. Tired nerves respond, at first, by overirritability so that

in the case of the three groups of gastric nerves we are liable to have oversecretion, overmotility, oversensitiveness, *viz.*, hyperchlorhydria, spasm, pain, either singly or combined and associated with a variety of concomitant symptoms mentioned above.

The remedy for fatigue is self-evidently rest and it remains, in each instance, to decide what is causing the fatigue and by the same token what implies rest. In most of these neurasthenic people the best rest is a change; hard work alone rarely produces neurasthenic signs unless associated with worry, monotony or failure. Psychoanalytic inquiries and a careful entering into the personal peculiarities of each individual and his surroundings generally furnish the needed clues. Simply to put these patients to bed and to incidentally expose them to the thousand petty annoyances, the depressing atmosphere of a hospital or sanitarium is not enough. Generally a fishing trip for the city dweller, or a visit to the big city for the small-town patient or farmer is more effective. One of the most important questions is: "What do you do for fun?" For the average person life is rather a drab progress from the cradle via the payroll to the grave.

Symptomatic treatment concerns itself with the relief of disagreeable subjective sensations, chiefly pain and the dyspeptic symptoms resulting from spastic conditions about the stomach and intestine. If there is much hyperchlorhydria the proper regulation of the diet, the proper use of antacids and of belladonna preparations is generally effective associated with the causal treatment indicated above.

Five or six feedings, that is, three main meals with small intermediary feedings in the forenoon, the afternoon and before retiring are usually indicated. In this way

the general nutrition so essential to recovery can be best maintained or restored. In most of these patients, however, the stomach empties itself with abnormal rapidity, causing an exaggerated form of hunger pain that is best controlled by feeding.¹

If the stomach is very irritable, it may be necessary, as a preliminary step, to put it completely at rest by starvation, using, if necessary, very dilute cocaine solutions and appropriate doses of belladonna together with external heat to control the pain and the spasm.

The character of the diet must vary with the conditions of motility, distention and secretion discovered in each case. Generally a soft, heavily albuminous diet is best borne, *i. e.*, appropriate preparations of meat, poultry, fish, eggs; also milk, provided the latter is tolerated at all. Many of these patients show a remarkable intolerance for milk even when diluted with lime-water or alkaline mineral waters. In addition, the diet should incorporate an abundance of stewed vegetables, the finer grades of cereals and breadstuffs and some stewed fruit. If a heavy meat diet is given, fats and especially sweets should be reduced to a minimum. It is best always to begin the meal with one of the meat preparations.

The intermediary feedings should consist of meat juice, raw or heated, meat jellies, meat broths and milk-cream mixtures (if borne), an eggnog with crackers or toast. Everything that mechanically, thermally or chemically irritates the stomach should be avoided; hence to prevent distention the smaller meals at frequent inter-

vals and very little fluid during and immediately after meals; the avoidance altogether of raw fruit and raw vegetables, all coarse particles in vegetables, cereals and breads; nothing very hot or very cold; no spices, condiments, etc.

Occasionally conditions about other organs or functions exist that render the use of a heavy animal-proteid diet undesirable; or there may develop on the above régime a tendency to bowel stagnation (spastic colon) with obstinate constipation and intoxication from the putrefaction of stagnating proteid, rendering the creation of a more bulky and less easily putrefying stool desirable; here a vegetarian-fat régime can usually be instituted, provided there is no extreme degree of hyperchlorhydria, in which case gastric lavage and alkalization will have to be adopted as accessory measures. It is much easier, however, and generally more effective to carry out the proteid regimen in every case, as the nutrition of the patient and his most distressing subjective symptoms are, as a rule, more promptly improved hereby than by any other dietetic scheme.

Hyperchlorhydria with its usual concomitants in these cases, spasm and pain, is usually controlled by the above methods without recourse to alkalies or drugs, the albuminous diet binding an excess of HCl promptly and in this way acting as an antacid. Occasionally, especially in the beginning of the treatment, it becomes necessary to administer some oxide of magnesium or bicarbonate of sodium. Of these the proper dose is just enough to relieve distress; complete neutralization of the gastric secretion, as advocated by the exponents of the modern ulcer cure, requiring as it does the almost continuous administration of really enormous doses of alkali,

¹On account of the custom, prevalent on the Continent, of indulging in small intermediary meals, "ulcer pain" is far less frequent and the ulcer diagnosis, clinically, rather rare. Autopsy diagnosis of real ulcer is, however, more frequent abroad than here.

is generally unnecessary and often distinctly harmful. One can get along with very little alkali in the relief of the ulcer syndrome as well as in the healing of a real ulcer.

In interpreting the results one should be careful in speaking of a cure. As the diagnosis remains uncertain in a large proportion of the cases, so the cure. One sees too many "healed" ulcers to have much faith in the permanency of the cure unless by surgery. I cannot suppress the conviction that the majority of the cured ulcer cases were ulcer syndrome patients without ulcer and not ulcer patients at all.

25 East Washington Street.

A BRIEF REVIEW OF THE END-RESULTS IN THE SURGERY OF GASTRIC AND DUODENAL ULCERS.¹

BY

LOUIS FRANK, M. D., F. A. C. S.,

Louisville, Ky.

At the outset it is regretfully admitted that the majority of statistical data are more or less unreliable, and that medical statistics are not entitled to unqualified exception; yet of necessity the fundamental principles of medical and surgical history must be based upon accumulated information furnished by statistical records; and this is especially true in relation to the ultimate outcome of medical as well as surgical therapeutics. "Discussing statistics, we must remember that they are only of relative value, no matter how accurate or how long a period or how extensive the

individual's practice. Therefore, statistics which include less than five or ten years of a man's practice, I would consider of little value. Statistics which include a single year's work of a surgeon's professional life time are of no value at all, taken alone. Statistics in which a man reports a hundred consecutive cases of major operations performed without a death are far worse than valueless, as a rule, because, in the first place, the motive for presenting such a series of statistics is not scientific, but ego-tistic. We would all like to report such statistics, but when we consider the seriousness of scientific facts dealing with human life, they must be thrown out of consideration entirely." (Coffey.)

From the standpoint of end-results the discussion of gastric and duodenal ulcers should be of intense interest to both surgeons and general practitioners of medicine, since it is a topic with which each is particularly concerned. "The surgical treatment of benign lesions of the stomach and duodenum is one of the most important problems of abdominal surgery. The brilliant work of contemporary surgeons has demonstrated that such lesions are curable, in the majority of instances, by properly selected surgical procedures, and that restoration to health may be perfect and permanent. That this happy result fails of achievement in some instances places a burden of heavy responsibility on one who, in case of failure, must review his procedure, and determine whether the fault lies in any error of judgment in selecting the mode of treatment, or failure in the execution of some point in technic." (Peck.)

The comparative frequency of gastric and duodenal ulcers has been discussed by many writers during the last few years, based upon both operative and necropsy

¹Incorporating portions of a paper read before the Kentucky State Medical Association, 1920.

records. Flint says that one would think if gastric ulcers were as common as reported, they, or the scars left after healing, would be frequently noted at operation or on the post-mortem table; whereas, as a matter of fact, such is not the case. During seven years at the Leeds General Infirmary, 1,078 patients were operated upon for gastric and duodenal ulcers; of these, 749 were duodenal and 329 gastric, *i. e.*, about two and a half of the former to one of the latter.

Mayo (W. J.) concludes that ulcer of the stomach is more serious than ulcer of the duodenum, but is fortunately less frequent, "our statistics showing 27 of the stomach to 73 of the duodenum," or about three to one. "Gastric ulcer is the more serious because of the resulting deformities which permanently cripple the stomach and, when extensive, interfere with gastric digestion and motility. The mechanical condition can be relieved by operation, but the physiologic function of the stomach is often more or less permanently impaired. In ulcer of the duodenum the gastric motility and secretory functions are not disturbed and, in the presence of gastroenterostomy, are continued in an efficient manner." (Mayo, W. J.)

The fundamental principle must be obvious that any method of treatment proposed for disease of any character must stand or fall upon its capability of ameliorating the symptoms or eradicating the pathology for which its application was conceived and upon which its therapeutics is based; and in surgery the procedure must also possess a certain degree of safety for the patient. However, neither the safety of the operation nor the brilliancy of its conception or execution play any part in its ultimate acceptance; everything depends

upon the value of the procedure as a curative measure. Other things being equal, says Deaver, when surgical treatment has been decided upon for the relief of gastric or duodenal ulcer, excision of the ulcer or resection followed by gastroenterostomy is the procedure of choice. Gastroenterostomy of itself is a curative measure only for a time; to insure a positive result the ulcer must be removed. It has been his experience that gastroenterostomy properly made and properly placed does not close in the presence of a patulous pylorus. Resection of the ulcer-bearing area plus gastroenterostomy presents the same advantages as the less complete operation with the added benefit derived from a direct attack on the pathologic lesion itself.

In the field of gastric surgery the methods of treatment have been well-nigh perfected, yet an analysis of final results offers some excuse for argument with the internist; whether or not the medical side has a sound basis will depend upon how much weight is attached to either angle of the argument. As Mayo says: "Let us bear in mind that ulcers of the stomach and duodenum as they are seen by the surgeon are chronic diseases that have been treated medically for years. I have been asked, when does a chronic ulcer of the stomach or duodenum become surgical? For various reasons the answer has been: after nine complete and perfect medical cures. With regard to the question of failure to cure surgically, I would put it down as a Hibernianism that the first cause of failure is in doing an operation, gastroenterostomy usually, on a patient who has no ulcer!"

As surgeons we must confess that the end-results in gastric and duodenal ulcers are not exactly as we would like them. In discussing figures, medical men are some-

times prone to make statements as to results which are not confirmed by critical study. Coffey remarks: "It is with a spirit of deep humility that the surgeon discusses end-results of the surgical treatment of ulcer, for these are by no means so good as we would like to have them and, like the internist's statistics, the surgeon's are also very inaccurate and variable."

A careful study made by Coffey of the collected cases by Deaver, including his own; by Lockwood, who quotes the statistics of Bettman and White; by Graham, from the Mayo clinic; by Joslin, von Eiselsberg, Peck and others, shows fairly satisfactory results in about 85 per cent. of cases. These figures include not only patients absolutely cured, but those much improved; and whereas 86 per cent. of satisfactory results are shown in duodenal ulcer, in gastric ulcer it is only 80 per cent., the absolute cures varying from 50 per cent. to 70 per cent. It must be remembered, however, that the word "cure" is largely a relative term, and in discussing this feature Mayo says that "the patient who seeks relief from distressing symptoms cannot always appreciate a 'practical cure.' To cure is relative, and depends on various conditions:

"(1) The general nervous stability.

"(2) The pathologic condition present.

"(3) The extent of this condition.

"(4) The proximity of the lesion to vital tissues.

"(5) The extent of operation necessary to remove the diseased tissue.

"(6) Coincident disease.

"(7) The patient's power to react.

"These factors enter into consideration when treatment, especially surgical, is to be instituted. The patient may be, and

often is, freed from disease, and life prolonged; yet he may not be freed from symptoms quite distressing. This is not always the fault of treatment, but an inevitable result of the pathologic condition occurring before treatment was undertaken."

It seems appropriate to add that other things must also be considered in studying the outcome of surgical treatment for gastric and duodenal ulcers, the operator and his experience being not the least of these, as upon his experience will depend the method of surgical attack which, in certain cases, must be varied to a considerable extent. While in the vast majority of instances gastroenterostomy may be all that is necessary (and in early simple ulcers nothing else will be required), in chronic indurated pyloric ulcer, in chronic perforation of the duodenum, and in large ulcer involving the posterior gastric wall having the pancreas as its base, quite different plans may have to be followed to effect complete cure. If it be assumed that simple gastrojejunostomy will relieve all these lesions, that it will act similarly under each of the circumstances cited, then our conception of the treatment of gastric and duodenal ulcers is amiss and our results will not be satisfactory. Let it be emphasized that the surgeon doing gastric surgery must have no set rule or absolutely fixed plan of attack: he must be prepared to vary his operative procedure as may be required, depending upon the pathology with which he is confronted.

Errors of judgment are not infrequently made in diagnosis, in that symptoms and Roentgen-ray findings are not correctly interpreted. These must be quite numerous, judging from the Rochester statistics, and our own experience also has been that Roentgen-ray interpretations are not al-

ways confirmed by operative findings. At the Rochester clinic the records show that more than three hundred gastroenterostomies have been released in which there was no evidence either in the history or in the condition found at the second operation that ulcer had ever existed. And to show that "accidents may happen in the best regulated families," fourteen of these patients were primarily operated upon at the clinic. It, therefore, behooves the surgeon not only to have sufficient data upon which to base his exploration, but to recognize the presence or absence of ulcer at the time of operation. The observation is important that the inexperienced may overlook ulcers, and that those of wide experience may easily recognize ulcers which would be unsuspected with stomach or duodenum exposed by the occasional or infrequent operator.

In the language of Cheney: "We have heretofore been too ready to diagnose ulcer when it did not exist because the history was typical; but now we have learned how many other conditions may simulate this history, and we demand other data in addition to the patient's story. On the other hand, when the history was not typical, ulcer was not suggested by it and we were likely to overlook its existence because our other means of recognition were so meager. Now we have learned that a patient's story of his ailment is not always the same; that some feel less discomfort from an ulcer than others do; and that only part of the classical symptoms may be present, even when hyperchlorhydria is found and roentgenograms show definitely a pyloric defect or a deformed cap. The only way to avoid error, therefore, is to trust to no one element in the diagnosis, but to collect our data by history, by physical examination,

by laboratory reports, and by fluoroscopic examinations and roentgenograms; and then to piece these data together as a child does the parts of a picture-puzzle, to see what they will ultimately make."

When ulcer involving the stomach or duodenum has been recognized, and its sequences and extent have been determined, the operation must be of the proper type and correctly performed to secure the best ultimate results. We are absolutely certain that many patients suffer discomfort and, not infrequently, that simple gastroenterostomy terminates in disaster because the operation is incorrectly performed. While procedures for the treatment of gastric and duodenal ulcers are well-nigh standardized, it is remarkable how often imperfections in technic may be observed, and how frequently such operations may be improperly executed. Simple as some of these procedures may seem, their performance in such manner as to yield perfect results is not always accomplished.

The mechanics of gastrojejunostomy must be perfectly understood, as upon this depends in large measure the cure. However, the cure is not entirely mechanical, but has a physiologic basis as well. Drainage of the stomach must be secured, but fertilization, as Mayo (C. H.) says, is also necessary; and this cannot be accomplished unless there is a flow of bile into the stomach to neutralize the acidity. Thus, Pater-son found in his series of cases that the total acidity was diminished 30 per cent., and he believed that the cure was largely due to this neutralization. It is for that reason simple excision of small ulcers without pyloroplasty or drainage has not been accompanied by good results. We have always combined our excisions, whether knife or cautery, with gastroenterostomy,

and believe from our observations this is the preferable method of procedure. While we have performed a few transgastric excisions of ulcers without gastroenterostomy, our good results are probably to be attributed more to luck than to skill.

It is sometimes difficult to decide exactly what should be done. In one of our cases, an enormous indurated ulcer on the posterior wall has been relieved for two and a half years by a transgastric operation with wide excision of the margins of the ulcer and direct suture. In simple ulcers it would seem the best results are now secured by cautery excision and a drainage procedure. From Balfour's study there appears to be decidedly less interference with motility in cautery than in knife excision, and also less late hemorrhage which is an actual danger. In advocating cautery excision, Balfour gives the following conclusions:

- (1) That the ulcer is destroyed and with it any early malignancy which may exist.

- (2) That there is little sacrifice of sound gastric tissue and secondary contraction is, therefore, minimized.

- (3) That hemorrhage early or late is with practical certainty prevented.

- (4) Finally, its simplicity, speed of accomplishment and safety.

Scudder and Harvey have shown that while there is, by the use of cautery, a slightly greater amount of tissue sacrificed, repair is not delayed and suturing is attended by the same reparative process as following knife excision. They believe, of course, that gastroenterostomy should always be performed. Peck also thinks that some method of treatment by excision is the best plan. In performing the excision operation, particularly in gastric ulcer

which has been shown to be far more serious, not only immediately but in its late results, than duodenal ulcer, the question of malignant development must be considered. Tho Kocher and Gressot report only 3 per cent. of carcinoma in their cases, von Eiselsberg records 10 per cent. and a larger percentage is shown by Mayo. Kocher has quite recently emphasized the rarity of malignant degeneration and states that the wide divergence in the figures of different surgeons (from 0.5 to 70 per cent.) is undoubtedly due to errors in interpretation; that he had personally examined many American specimens and was convinced that much labeled cancerous degeneration was in reality only atypical proliferation; that regenerative changes in the gastric glands assume most peculiar shapes and we have no means to date to differentiate them except by the outcome. Whatever the actual percentage of malignant development may be, this is a danger which must be given due consideration in dealing with gastric and duodenal ulcers. "As the cases are met on the operating table, the difficulty practically always arises with the large crateriform ulcers on the lesser curvature and posterior wall. The gross appearances of these frequently do not betray their microscopical structure. The truth is that many of the lesions show every characteristic in their gross appearance of a benign lesion and their malignancy is only apparent under the microscope. The important point to remember is that, in actual practice, it is much safer and better to regard every one of these lesions as potentially malignant. The method of treatment should then be obvious, and whatever else it will include, it will accomplish a thorough removal of the lesion."..... "So many seemingly benign lesions of the stomach

ultimately prove to be malignant that the advisability of any medical treatment seems to be increasingly questionable."..... "The sane viewpoint seems to be to determine the presence of a surgical lesion at the earliest possible moment; then operation is immediately indicated, perhaps frequently of an exploratory nature to insure the radical removal of the cancerous growth at an operable moment."

Other sequelæ of gastric ulcer must also be remembered, *e. g.*, hour-glass stomach, in which there may or may not be an active ulcer present, and pyloric obstruction, which is a common sequence of ulcer near the stomach sphincter. It is true that some of the latter, under the impression that they were cancerous, have been entirely cured following gastroenterostomy; yet our practice has been to perform resection either of the Billroth or preferably the Polya-Balfour type. In duodenal ulcer such sequelæ are not noted, and our plan in the treatment of these cases has been simple gastroenterostomy with infolding of the ulcer, unless there was marked induration, when excision and pyloric exclusion have been practiced. We think the latter procedure will rarely be found necessary.

In a study of 74 cases of duodenal ulcer, 72 of which were treated by simple gastroenterostomy, Peck shows 51 cures in a total of 58 patients traced. This is a percentage of 88, or if calculated on basis of the 74 cases, would show 68.9 per cent. as cured. In Kuttner's series of 1,100 operations for ulcers of the stomach and duodenum, including those presenting hour-glass contraction, pyloric stenosis and active ulcer, there were 65 per cent. cured. These cases were all treated by gastroenterostomy.

Flint states that of 65 cases of gastric

ulcer treated by gastroenterostomy at Middlesex Hospital, 46 per cent. were cured, 20 per cent. relieved, 11 per cent. slightly benefited, and 23 per cent. total failures. Of 67 cases treated at St. Mary's Hospital, 42.2 per cent. were cured, and 38 per cent. gave bad results. He believes the cases in which gastroenterostomy can be relied on to do much good are those where the ulcer is situated close to the pylorus, being associated with stenosis; but even here the ulcer may subsequently give trouble. Partial gastrectomy is advocated in the treatment of gastric ulcer, and the author says 44 such operations have been performed by him during the last two years. Sixteen of the patients could be traced; 12 were cured; results not entirely satisfactory in the remaining 4. "Sir Berkeley Moynihan, who is the only other surgeon in the British Isles who has regularly practiced this operation for gastric ulcer over some three years, has a larger series of cases, and his results are excellent." (Flint.)

Loehr's study embraces 163 gastric ulcer operations; there were 91 males and 72 females. As to character of the lesion, there were 47 callous ulcers; 39 simple ulcers with perigastritis; 43 cicatricial ulcers with adhesions, etc.; 22 perforating ulcers; 6 fresh bleeding ulcers; 6 hour-glass stomach cases. The end-results in the 129 patients included in the first three categories (callous, simple and cicatrized ulcers) showed 11 deaths, 78 good, and 30 unfavorable results. The diagnosis was wrong in six instances. In four cases carcinoma developed within two years after operation. The best end-results were noted where the ulcer was situated in the pylorus. The author claims that an ulcer which at operation is not already carcinomatous rarely becomes so later. In the hour-glass

stomach cases half the end-results were good; in the other half recoveries were not complete. In six cases of profuse gastric hemorrhage treated surgically, a good result was obtained in only one. Of the 22 patients with perforated ulcers, 10 died as a result of the operation; in 8 of these, multiple gastric ulcers were found at autopsy. Eight showed satisfactory end-results; 1 died a year later subsequent to further perforation.

Statistics presented by Hobbs show that 545 operations for gastric ulcer yielded an operative mortality of 24, or 4.5 per cent. During observation for 3.6 years 88 died, or 17 per cent. Sixteen hundred and eighty-four operations for duodenal ulcer yielded an operative mortality of 33, or 2 per cent. During an observation of 3.4 years, 85 of these died, or 5 per cent. Ninety-one unoperated gastric and duodenal ulcers were followed for 3.8 years; 9 of these died, or 10 per cent.

Schwytzer mentions 91 patients under observation one year after operation. Of these, 62 were well, 12 greatly improved, 15 improved, and 2 temporarily improved. Over one year, 72 patients. Of these, 49 were well, 12 greatly improved, 11 improved. Over five years, 47 patients. Of these, 31 were well, 9 greatly improved, 7 improved. Over twelve years, 10 patients. Of these, 8 were well, 1 greatly improved, 1 improved. There were 15 acute stomach perforations with mortality of 27 per cent. Type of operation: There were 86 gastroenterostomies with 2 deaths, or 2½ per cent.; 13 Finney pyloroplasties with 1 death, or 8 per cent.; 13 gastroplications, no mortality; 20 resections with 1 death, 5 per cent. The author concludes that the patient who is relieved of his symptoms for one year usually remains cured.

In a study of the results after gastroenterostomy for gastric and duodenal ulcers, Macdonald and Mackay found that gastrojejunal ulcers occurred in 30 per cent. Their statistics include 330 cases. They suggest that the secondary disturbances noted in patients subjected to gastroenterostomy may originate from less advanced lesions at site of the anastomosis. Many surgeons have reported complete relief from these secondary symptoms following pylorectomy months or years later. It is possible that with greater experience the treatment of the ulcerated areas may become more radical. Altho pylorectomy has a higher mortality, it may replace gastroenterostomy in certain cases if with improved technic it becomes as safe, and especially if the pylorus is not obstructed or inflammatory lesions do not predominate. Where there is cicatricial obstruction of the pylorus, gastroenterostomy is a very beneficial operation. Probably within the next ten years careful study of the type of lesion revealed by operation, the immediate mortality, the end-results, and especially the incidence of new ulcers, will be the factors upon which decision between the two operations will be based. "Gastroenterostomy has been, on the whole, the best therapeutic treatment of gastric diseases, completely curing a large number of such patients condemned to certain death by inanition, and for whom medical treatment is powerless. It will always be the method of choice for the patient who has been weakened by the disease."

CONCLUSIONS.

(1) Gastric and duodenal ulcers are distinctly amenable to and are best handled by surgical treatment.

(2) In from 75 per cent. to 85 per cent.

the results from surgical treatment are quite satisfactory to the patient.

(3) Many of the failures to completely relieve are due to delay in instituting surgical intervention.

(4) Failures are also due to incorrect diagnoses and to the performance of gastroenterostomy when no ulcer is present, the cause of the digestive disturbances being other than ulcer.

(5) In the presence of ulcer, lack of cure may also be the result of imperfect technic or of an incorrect type of operation, thereby leaving the way open to post-operative complications or sequelæ, such as jejunal ulcer and carcinomatous engraftment upon the ulcer.

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THE PRODUCTION OF SPECIFIC EFFECTS WITH X-RAY AND OTHER PHYSICAL MODALITIES IN PULMONARY TUBERCULOSIS.

BY

JEFFERSON DEMETRIUS GIBSON, M. D.,

Denver, Colo.

Member of: Denver City and County Medical Society, Colorado State Medical Association, American Medical Association, Western Electro-Therapeutic Association, The Radiological Society of North America, National Society of Physical Therapeutics, American Institute of Homeopathy, Ex-President American Association of Clinical Research, Ex-President American Association of Electro-Therapeutics and Radiology, Ex-Professor of Physical Therapeutics, Denver College of Physicians and Surgeons, Ex-Professor of Physiology of the Birmingham Dental College.

Webster's definition of a medical specific is, "Prevention or cure of a disease by a peculiar adaptation." And we might add to this that the peculiar action is as a general rule definite and regular in its course of action. Local or visible tuberculosis is probably the purest form of tubercle infection, that is, they usually have few complicating infections compared to the systemic or pulmonary forms of the disease.

A specific agent we must remember is not necessarily expected to relieve and cure all of the complications existing, that is already or may be engrafted on, or become a part of the disease in question. So we must not forget this point in the discussion of the present paper. As I have just noted above, the local or visible tuberculosis is usually the purest type of infection and, therefore, I will call attention in a brief way to the splendid success of all radio-therapists in the treatment of this class of cases, namely, tubercle infections of joints, glands and the skin, etc. I have heard radio-therapists make the assertion that

they never saw a case of tuberculous glands that they were not able to cure; and as this is definitely understood, I will not take time to demonstrate the successful results in these cases, but will claim them as proven, definite facts. We must remember, however, in these cases we have the genuine tubercle bacilli, from which there is very slight, if any, difference between it and the bacilli in the most desperate cases of pulmonary tuberculosis. While it may not be so virile as the latter, with a little change in its surrounding, it is likely to attain very quickly all of the toxicity of the bacilli of the systemic infection.

While a specific agent would produce the same cycle of effects in the local or minor infection, in this paper we will deal mostly with the deep and serious pulmonary infection of the lungs, which is a systemic infection and dangerous in most cases to the life of the host. A specific agent, remember, must cure disease by a direct and peculiar adaptation; and it, therefore, must act in a definite and regular cycle of changes, both upon the infection and bacilli as well as upon the normal and pathologic tissues, which is correlated to the disease and necessary for the successful cure of the condition.

X-ray is peculiarly the nemesis of the tubercle bacilli. For ages it has been known and taught sunlight is the greatest foe to tuberculosis. This is probably not alone from the effect of the heat rays upon the wax coating of the tubercle bacilli, but the peculiar vibration of the light waves penetrating the wax and fatty coating of the bacilli as nothing else does; and especially is this true of the violet, ultraviolet and still shorter waves of the chemic end of the spectral beams. This being a well-established fact that chemic light has al-

ways been the greatest natural foe to the tubercle bacilli, why then should not X-ray, the acme of all chemic light, the light of the shortest wave length, most rapid irregular waves of all ether vibrations, at the same time having the greatest penetration of all known rays of light, why, I repeat, should it not possess undoubted influence for good or bad upon this little rodent of lung tissues?

The splendid X-ray machines and tubes obtainable at the present time that will produce rays with sufficient energy to take an X-ray skiagram of the chest in the fraction of a second, demonstrates the wonderful power pent up in these X-ray tubes, but it is not this skiagraphic ray we wish in tubercle therapy. Two to three ma. flowing thru a Coolidge or the author's air cooled tube will throw a dim fluorescence thru the ordinary tubercular chest; and this is about the strength of current which I will use as a standard in this discussion.

What are some of the effects expected from the regular raying or treatment of a tubercle lung with X-ray? We will discuss this from three standpoints:

First, the effect of the raying upon the tubercle bacilli, *per se*.

Second, the effect that the rays have upon the normal and pathologic tissues as they pass thru them.

Third, clinical effects obtained in cases treated.

A. (1) Probably the first appreciable effect these peculiar vibrations of the ether have upon the bacilli is to interfere with their ferments in their catalytic action, or preparation of the food or nourishment from the cells or tissues of the host.

(2) X-ray has the well-known property thru its short, irregular vibrations of arresting or interfering with the power of

propagation of all germs, microbes and other animal life. This has been so abundantly proven that we will simply state it as a fact in this short discussion.

(3) If the food of the bacilli is systematically interfered with and its vitality, etc., lowered, some will soon reach to the point where the whole plan of their attack will be changed or modified so they will become an easy prey to the leucocytes and other natural defenses of the body.

(4) As they begin to die or are unable to resist the leucocytes, then they are engulfed, digested or modified by the leucocytes, after which they are eliminated into the blood and lymph streams of the body, where they act as an autogenous antigen.

B. (1) As X-ray is poured thru the chest in proper therapeutic amounts, we notice certain changes both in the fluids and solids or cells of the tissues take place.

(2) The effect of all light upon the tissues to a certain amount is stimulating and pleasing; and in this case we might say a stimulation like unto a very exceedingly slight stimulating effect of sunlight given off by the rays as they pass thru the cells and tissues of the chest. This can be continued in a definite, regular and systematic manner, stimulating a little bit more and more until there is produced down thru the X-rayed tissues a slight tanning effect as of sunlight. The hardened mass of tubercles are firmer and more solid than the normal lung tissues, and when the central or direct beams of rays strike these hardened masses, the rays should spangle and fly off at a tangent and lose themselves in the hardened mass and be dissipated as an electrical current. At this point we get the greatest therapeutic effects just at the local point where it is most needed.

(3) This stimulation carried on still

further with the tanning effect, a hyperemia is produced both in the normal and pathologic tissues traversed by the rays. There is a slight difference in the reaction of the normal and pathologic tissues, and at this time the opsonins will be greatly increased with their positive and negative phases, which must be remembered as the treatment progresses. Also at this stage of treatment certain leucocytes will be found to be definitely and steadily increasing.

(4) With the increase of the leucocytes it will be found there is one agent peculiarly present and this is the abnormal increase in the number of the "Large Mononuclear Leucocytes," Nature's own agent for the destruction of the tubercle bacilli. This leucocyte is peculiarly the nemesis of the tubercle bacilli.—"Webb." It has the ability of engulfing, digesting and eliminating the wax-coated tubercle bacilli with perfect impunity, and it is the only one of the leucocytes that has this faculty. So far as the author knows, properly dosed X-ray has the power of increasing this especial leucocyte to a greater extent than any other agent so far discovered. Every tubercle is lined with this cell, or at least this particular cell, the large mononuclear leucocyte lies next to every bacilli in every tubercle, proving that when there are not enough of them present to win a victory over the bacilli, a tubercle is formed and they are sealed up with the bacilli. The author claims that X-ray has the specific power of increasing this special leucocyte from 1 to 2,000 per cent. in cases of pulmonary tuberculosis. In the ability of X-ray to produce this enormous increase of this special leucocyte lies the hope of producing direct and specific effects in pulmonary tuberculosis.

(5) Along with this production we have a real engorgement or hyperemia of the lungs, especially marked in the infected areas, and is rich in special opsonins, complements and co-ferments, all of which play a part in the natural defense of the tissues, while the great number of large mononuclear leucocytes "play havoc" with the weakened and well-opsonized bacilli at this stage of the lung condition.

(6) The special leucocyte increased to an enormous degree engulfs, digests and eliminates in a modified condition the constituent parts of the whole bacilli into the blood streams where they act as autogenous anti-endo-toxin antigens, when the natural defenses are compelled to react and furnish an autogenous anti-endo-toxin amboceptor, or "immune body," to neutralize the above named antigen. So if the autogenous anti-endo-toxin amboceptor is complemented, it is considered an absolute specific for its sensitized antigen, which in this case is the "autogenous anti-endo-toxin antigen." Therefore, we are compelled to have by the law of reaction an autogenous anti-endo-toxin amboceptor, a positive specific for the endo-toxin bacilli, thereby giving us a practical specific in tuberculosis.

(7) By proper continuation of the raying this vaccine formation is likened in its production to a continuous chain in action and with the resulting hyperemia, a softening up of the old hard fibrosed and infiltrated tubercle areas will take place and can be removed to a considerable extent, much in the same way as it is accomplished in an ordinary lobar pneumonia. In fact, a "crepitant redux" will appear in the same way and the alveoli cells in many of the solidified areas will be cleansed of their exudate and air restored in them as in the resolved pneumonia.

(8) By the judicious continuation of the process just described, it is possible not only to eliminate the bacilli from the sputum, but they can be eliminated from the lung tissues as well; and so thoroly accomplished that many patients will not react to tuberculin.

C. Symptoms.—Clinical.

X-ray with its great adjuvant, static electricity and inhalation of an ozonized oil nebula added to the regular hygienic method of treating tuberculosis, namely, diet, rest, fresh air, sunshine, forced feeding and medicinal care produces splendid clinical results.

The first five or six weeks there will probably be an increase of expectoration, slight increase of symptoms of moisture in the chest, with an apparent loosening of expectoration, so that it will be coughed up more freely and easily; and during the third month the yellow expectoration will begin to give away to a white, glary mucous expectoration. During the fifth and sixth months in many of the ordinary cases of severity the symptoms of moisture will begin to disappear and the sputum of many will become less, and in the earlier one may be noted a marked decrease or relieved entirely; and the physical well-being of the patient will be such that he will feel stout and strong enough for work and the respiratory condition greatly improved. This process will continue until a great deal of the old tubercular exudate in the diseased lung has been resolved and removed, giving the patient much more air space in the lungs than he had at the beginning of treatment. In other words, I have demonstrated for several years that this combination produces an elimination of the bacilli, tubercle infiltrate, and dissolves and removes many of the encapsuled areas; and

is, therefore, a treatment of elimination instead of encapsulation.

The author finds after treating thousands of cases by this method that 90 per cent. and more of all tubercular patients, all stages and complications, can be restored to such condition of normal health that they can be self-supporting, attend to business, make as much money and live as long and comfortably as if they had never had tuberculosis.

THE ODYSSEY OF 1,000 CHILDREN.

BY

DR. HERBERT McKAY COULTER,

Pasadena, Calif.

The immortal gods who thwarted the patient Ulysses in his endless wanderings are no more. Their immortality was a fiction invented by the naive, creative mind of ancient Greece. But there are today a thousand Russian children who believe firmly in the reality of these gods, to whom this fiction is a stern fact, and who know that these gods are still in their heaven, angling the destinies of human kind and making the way hard for the innocent—until the final, happy dénouement.

For two years these children wandered about the face of the globe, driven always farther and farther from their homes and their kin in Petrograd, tried by hardships that would have disheartened even the stout Ulysses, arriving at last at their destination in spite of what at times seemed unponderable obstacles.

The story of this Junior Odyssey is known to the world, the trials and tribulations of these youngsters having occupied prominent place in the press recently, at an account of their two-year wander-

ings by their "family physician," who accompanied them thruout the trip, may be of special interest to the readers of AMERICAN MEDICINE. The excellent health of the little wanderers thru all their hardships is a splendid tribute to American medical methods, and the sanitary and hygienic discipline enforced among them may offer a lesson in the control of a large group of children under most adverse circumstances.

It should be borne in mind that the children were originally sent out of Petrograd because they were sickly and undernourished. There were many tuberculous cases among them. When they left Petrograd, practically every child in the group was decidedly subnormal. Yet, during the entire period that the thousand children were under American medical care, there were only five deaths. A typhus epidemic was met successfully and suppressed without a single death. At the end of their round-the-world trip, despite severe hardships, the health average of the group was far above normal and, indeed, equal to that of any group of children in the most favorable environment.

The children were confided to the care of the American Red Cross in 1918 by the local government of the Province of Minsk, which found itself unable to care for them owing to political and military conditions. The provincial government had not even enough supplies to feed and clothe its military forces, and it accordingly asked the Red Cross to assume the responsibility for these children. The American organization was given written authority, transferring all responsibility to the Red Cross so far as it was able to carry out any program for the care and safety of the children.

With never-failing humaneness, the Red Cross undertook this task. A desperate

military campaign was going on along the western railway lines and it was a physical impossibility to move the children westward. They were, therefore, gradually moved out of the military zone into eastern areas, where supplies were more accessible and across the vastness of Siberia, safety lying always farther and farther from their native city.

It required four trains and twenty-two tepulskies (Russian wagons) to transport these children across Siberia to Vladivostok and took months of time. It was necessary to pass thru a typhus section, so before they reached Vladivostok the Red Cross established baths and a delousing station in that city. On their arrival, all the children were deloused, were bathed, had their hair cut and were given a complete change of clothing before proceeding to Russian Island. Thanks to these precautions, only a few cases of typhus developed, but there were no deaths.

When the children arrived on Russian Island they were housed in five large barracks, built and occupied by soldiers during the Russo-Japanese War. The youngsters had been living in such irregular circumstances in the Ural Mountains that at first it was impossible to establish any discipline. They were like wild Indians and it was very difficult to organize them.

With the help of Scout masters, boys and girls were both organized into Scout bands and by this means were taught what all Scouts are taught—loyalty to their country and flag, honor, a clean body and a clean mind, obedience, self-reliance; and they were inspired with these principles in such a way that they hardly realized that they were being disciplined. I mention this because the Russians, having broken away from the Czar and the military régime he

represented, were opposed to any military form and would not have their children taught anything in any way related to it. It was, therefore, impracticable to have soldiers guard and train them, but thru the Scout movement we were able to accomplish the desired result without incurring any objections. This Scout movement was one of the most helpful means toward welding the children into a well-organized colony.

The next step toward organization was to establish a school. In 1918 the children's education was interrupted. They had been in school two or three times, but did not accomplish much. So, in the fall of 1919, the Red Cross was able, in cooperation with the school authorities in Vladivostok, to establish an accredited school, one from which diplomas would be recognized and honored all over Russia. Special teachers were engaged and 85 per cent. of the children completed the full year's work scheduled for them.

Fifteen of the girls, who had passed their eighteenth year while with us, were entered at one of the American Red Cross hospitals for a four months' training course, at the end of which they were qualified as nurses' aids. Ten other girls were given a course at a teachers' institute and became teachers. About an equal number of boys graduated from gymnasium and commercial schools.

It was difficult to carry out the school organization on account of the lack of books and maps. Three artists were found among the Austrian and Hungarian prisoners assigned to the Red Cross and these volunteered to make maps and charts in colors, by which the teachers could demonstrate their lessons in geography, anatomy, botany and zoology. The result was that

our school soon had the best charts of any school in the Vladivostok district.

Everything was done in the way of organizing healthful exercise and entertainment to make the children happy in the colony. They had a band, an orchestra and weekly dances.

Fully 95 per cent. of the colony were Orthodox Greek Catholics, and the Archbishop of the diocese of Vladivostok was asked to encourage them as far as possible in the observance of the doctrines of their own religion. The dilapidated chapel on Russian Island was restored and a resident priest was assigned to conduct services and supervise the usual religious instruction in the school. A music teacher organized the orchestra of twenty pieces and a choir of forty voices, which on several occasions was invited to supplement the choir at the Cathedral in Vladivostok on church holidays.

In Russia there are about 160 church holidays in the course of the year. It was a magnificent sight, on a bright day, to see the thousand children of the colony marching to and from the beautiful church on the Bluff overlooking the harbor of the Golden Horn. And I am sure most of the parents in far-away Petrograd would have been grateful and pleased had they been there to see them.

There were only five deaths in the colony during the whole period of its existence, a year and a half. The number of children in the colony, when it finally set sail for America, was 777, and these had all originally come from Petrograd and Moscow.

The trip to America was without incident. We had a poor-looking ship, but comfortable to ride in. She was 450 feet long, with 4,500 tons of sugar to keep her steady. From New York an equal number

of tons of coal were shipped. Going thru the Panama Canal it was exceedingly hot and the children were obliged to keep on deck, but the sanitary conditions remained satisfactory even in the heat of the tropics.

After seven weeks of ocean travel we arrived at New York. We were anxious to land the children for a few days, to remove them from the danger and dust of unloading the sugar cargo and loading the coal. Owing to the immigration laws the Red Cross was obliged, in order to get landing permission, to put the children under military guard at Camp Wadsworth, on Staten Island. This military guard was, no doubt, the cause of the outbreak of discontent which occurred later.

The Red Cross Society generously invited all Russians in New York to visit the children, with the hope of bringing a touch of home to them, but this brought a host of propagandists, who tried to instil unrest and dissatisfaction among the group by telling the children that the Red Cross was taking them on a trip around the world to advertise itself, that the teachers were being badly treated, that everybody in the party was under military guard and practically prisoners and slaves, and that they were being taken to France for the winter and not to Petrograd. These unfortunate insinuations were assisted by the fact that wherever the children went they were under military escort, for the reasons explained—reasons which the children naturally were incapable of understanding.

It was at this stage that a curious resolution was drawn up at a meeting of the children and teachers, asking for an explanation as to why they had been brought from the Ural Mountains "without authority" and why they were being held under military guard.

In this connection it should be explained that the Red Cross had all this time been trying to get in touch with the parents of the children thru the Soviet Government, but without response. Even when the colony left Brest, where a five-day stop was made to take on supplies, their destination was still unknown. It was thought that they could land at Copenhagen, but by wireless we were informed that this would not be permitted. The same thing happened at Reval.

At Helsingfors we anchored in the harbor and the Red Cross officials proceeded to interview the Finnish authorities, who declared, after five days' delay, that so many Russians could not be allowed to land.

Finally, however, the Red Cross obtained permission for the children to land at Koawista, near Viborg. From here we traveled thirty kilometers by train and walked eleven more kilometers thru the woods, arriving at last at Halila Sanatorium. Here was an excellent set of buildings erected by the Czar just before the revolution in Finland to accommodate the best class of Russian tubercular cases. The sanatorium had never been opened on account of the change of frontier between Russia and Finland. Finland permitted the colony to settle there only on the understanding that it was to be a temporary arrangement.

The American Red Cross took in supplies to last six months. The children were very comfortable. The buildings had electric light and steam heating. For disciplinary purposes the same sort of organization was set up as had been established on Russian Island, and the children, in addition to routine daily work, had school

classes, a band, orchestra, dances and moving pictures.

I cannot refrain here from complimenting the Russian nation on the high moral tone of the colony, whose members included several hundred adult children and teachers. Altho surrounded by soldiers, military prisoners, etc., nothing of a discreditable nature ever occurred. The morale of the colony was perfect. This, I think, was due to the fact that the members were kept busy and happy and were furnished with everything they needed, tho in the face of occasional hardships they showed a splendid stoicism. I cannot see how so large a colony could have been handled to better advantage.

What little unrest there had been at one time in the colony disappeared two or three days after the children had left New York behind them, indicating that this disturbance came rather from external than internal influences. In Finland, as everywhere else, the attitude of the colony toward their American guardians was one of tremendous gratitude and good feeling.

Once established at the Halila Sanatorium, the Red Cross authorities renewed their efforts to reach the parents of the children. Thousands of circulars, giving all the known information about the members of the colony, were printed and widely circulated thruout Russia. The upshot of this wide publicity was a flood of letters from parents and a final decision on the part of the Soviet authorities to claim the children, with the promise to care for them. As a consequence, most of the children have by now been repatriated and restored to their families.

I personally delivered twelve of the children into the hands of their parents, who had come to Reval and Riga to claim them.

In a few instances, mothers wrote advising against the return of their children, owing to the hard conditions of life in Petrograd today. But generally, the letters were expressions of joy in the restoration of their children. The reunions were touching sights. In many cases the mothers became hysterical on seeing their children again after so long an absence. More than a few mothers could hardly recognize their own boys and girls, for some, who had left their homes as small children, had grown into splendid young men and women.

CONTRIBUTIONS TO THE STUDY OF NARCOTIC ADDICTION AS A DISEASE.

BY

DR. A. S. HOROVITZ,
Cincinnati, Ohio.

The physiologic action of habit-forming drugs—the biochemistry of narcotic addiction disease and the physiologic action of lipoidal substances in restoring the lipoidal equilibrium in cases suffering from this disease.

In this dissertation the writer will endeavor to bring about a clearer understanding of narcotic drug addiction as a disease by giving a short description of the biochemical action of habit-forming drugs upon various tissues and their constituents, and the physiologic and neutralizing biochemical action of various lipoids upon toxins and alkaloids.

Whenever the physiologic processes of the body are interfered with by invasion of microorganisms, or by some other physical or chemical cause, there ensues a series of physical and chemical changes, which changes result in different phenomena des-

ignated as various diseases. In the system of the narcotic addict these physiologic processes are caused by the chemical activity of various alkaloids and, therefore, we are justified in terming the pathologic consequences of alkaloid activity as narcotic addiction disease. For the right conception of addiction as a disease we are indebted to Bishop, to whose extremely valuable investigation, observation and broad conclusions nothing can be added. In his numerous articles he so thoroly and adequately describes all the manifestations of this disease that the writer has to refer the reader to this investigator for any further information desired on this particular phase of narcotic addiction.

In my previous papers bearing on this subject it was explained that alkaloids exert a whole series of chemical and physiologic effects upon various tissues, including the tissues of the entire lymphatic system and the whole nervous system. Under the influence of alkaloids certain pathologic conditions arise where the lipasic activity of the lymph glands is diminished and altered according to the quantity of alkaloids taken and the length of time the habit-forming drugs have been indulged in. For better understanding, it is necessary to say that the lymph glands have lipasic activity by which power they transform the fatty intake of food from its foreign character into fat suitable to the organ concerned. Various alkaloids have a biochemical paralyzing influence upon the activity of the enzymes performing this duty for the lymphatic system, and to this paralyzing influence may be attributed the run-down, emaciated condition of most addicts, the lack of appetite and of desire for food, combined with extreme constipation and a whole series of other typical symptoms.

From this short description it is obvious that only a chemical complex with not only the power of neutralizing the action of the alkaloids, but with the power of gradually dissolving the accumulated drugs of inhibition will be able to put the lymphatic system on the road of recovery, and to restore the nervous system to its normal condition.

Thoro investigation of the action of various chemical complexes upon alkaloids, *in vivo* as well as *in vitro*, leads us to the conclusion that so far known the lipoidal substances are the only ones which have a neutralizing and dissolving power upon alkaloids, or *vice versa*, and that the lipoids are the only chemical complexes which retain their chemical activity toward alkaloids not only in the state of origin, but outside of the mother cell aggregate. In our investigation of the action of lipoidal substances in cases suffering from addiction disease, we found that during the inactivity of the lymph glands due to narcotics, the system was not supplied with the various necessary fats. This depends on and is in accordance with the quantity of narcotics used, and the length of time during which the narcotic has been taken. Furthermore, different quantities of lipoidal substances were required for stabilization. We also noted that in the beginning of the replacement of lost lipoidal substance the craving for opiates was frequent, but that it gradually subsided in mathematical order with the replacement of the lost lipoidal substances. With the disappearance of the craving all the other characteristic symptoms of narcotic addiction disease also subsided, bringing about a normal state in the activity of the lymphatic and nervous systems.

These findings are in corroboration of the findings of Paculain, Steemann and

Hammerschlag, who have done valuable work in revealing the chemical character of lipoidal substances. The lymph glands also contain fat, partially in the cell, partially free. The macrophages are derived from the endothelium of the glands, and act upon the fat by emulsifying or saponifying it. When this is taken up as a soap, the soap may be converted back into fat by the cell or changed into certain lipoids. This physiologic fact is most important as it shows clearly that the lipoids are present in the economy for the purpose of protection, primarily to guard the nervous system against the irritating activity of the toxins, and the deleterious influence of the alkaloids and the chemical complexes released from them. In cases of narcotic drug addiction disease, however, the creation of lipoidal substance by the system is partially prevented by the influence of the alkaloids which pervert metabolism and allow the phenomena of narcotic addiction disease to become manifest. The intensity of this ailment is commensurate with the amount of lipoids abstracted from the tissues, which proves that narcotic addiction is a true disease.

As previously stated, the lipoids are, so far as is known, the only chemical complexes with the power of neutralizing the action of alkaloids *in vitro* and *in vivo*, regardless of their origin and character. Therefore, it is obvious that whereas the degree of toxicity of various alkaloids varies, their qualitative action upon the living tissues is uniform. This fact will explain why lipoidal substances have the power to overcome the effects of all alkaloids. The only differentiation lies in the quantity of lipoidal substances necessary to replace the lost lipoids of the tissues, varying in amount in accordance with the

solvent power of the alkaloids, causing the pathologic change in that particular system.

"Lipoids," as I recall its derivation, is a term introduced by Overton to designate certain bodies found in living tissues, which possess at least some of the physical properties and chemical constituents of fat, especially as regards their reaction toward the alcohols, narcotics, and fat solvents. Some investigators seem inclined to include in the term "lipoid" only those compounds containing nitrogen and phosphorus, but the general biochemical idea is more comprehensive. It is generally admitted that the name "lipoids" is inexact and indefinite. Its use has given rise to considerable misapprehension, but we may say the same thing of most of the names used in biology, biochemistry and other allied sciences.

The majority of the medical profession, especially the general practitioners, have little time to spend investigating lipoids, and their conception of these important substances is erroneous, for they believe that lipoids are closely related to fats, and have very much the same characteristics and functions. But this is a wholly erroneous conception, for the lipoids have little in common with fats either as regards composition, genesis or function in the system. It is important to remember the point that in aqueous media lipoids present certain phenomena of surface tension and behavior, dependent thereon, which we will identify more and more as "vital action." We think that future research will unmistakably establish the fact that lipoids are responsible for a far-reaching activity, both metabolic and immunizing, heretofore accredited to other substances. We believe the vitamins will suffer a great loss of reputation when the true rôle of lipoids is thoroly understood. Today it is unquestionably estab-

lished that to the nature of the lipoidal contents of the system we at least practically owe our immunity to bacterial toxins and intestinal autotoxins.

Since the writer called the attention of the medical profession to the lipoids, or lipoidal substances, as therapeutic agents, it is not more than right that he should explain the molecular affinities, chemical and physical, of these agents.

The medical profession generally understands by the term "lipoids" certain fatty substances. The formulas of fats seem fairly simple and their composition and reactions well established, they being esters of glycerol and basic fatty acids, which easily break up into the above mentioned components under the influence of cell lipase from which lipasic action arises a soap capable of osmosis. It is far different, however, with the lipoids under which collective name we understand a group of various individual complexes, every one a complex of elements. The supposed proportion of the elements in cholesterol, one of the members of the lipoidal family, is $C_{27} H_{44} (H_{46}) O$. The molecule contains a double bond and, according to Rosenheim, it is supposed to belong to the terpenes, as it has an alcohol hydroxyl in its stereochemical make-up. The most important feature about it, which made the use of plant lipoids as a therapeutic principle possible, is that this is so far as known the only one of the class of terpenes formed both in animal and plant tissues, making one of the ties which link the animal to the vegetable kingdom.

It is a matter of fact that lipoids in combinations of fat and albuminoids are found in animal and plant tissues, and these lipoidal complexes retain their activity when they are extracted from the mother

cell aggregate. The quantity and quality of these lipoidal combinations are different in various pathologic conditions and phases of life. In patients who are suffering from narcotic addiction disease the quantity of lipoidal substances is greatly reduced, as previously stated. The presence of lipoidal substances in all the tissues is largely responsible for their own biologic, biochemical and immunologic action.

In cases of addiction this equilibrium is disturbed by the great reduction of lipoids thru the action of alkaloids, which is easily proven by referring to Mannin's findings based on his investigations of addicts. Mannin says of dried leucocytes: "They seem to consist of fatty substances, and of lipoids in the proportion of eighty to twenty." The proportion is changed to a considerable degree in cases of addiction disease where the proportion present depends upon the quantity of alkaloids taken and the length of time of addiction. We also know that certain lipoids are the protective factors in the red globules. The quantity of those lipoids is considerably diminished in cases of drug addiction and in pernicious anemia. The vulnerability of the cells of various tissues stands in direct ratio with the lipoidal contents of the exterior of the cell, and that a certain protecting rôle against poisons is inherent in the action of lipoids. This action of the lipoids seems to be exercised in a protective way against both endogenic and exogenic inimical agents.

As above stated, the lipoids of the tissues are usually in combination with other molecules, such as proteins. The quantity of these lipoproteins differs in various stages of life, depending on age, on infection, or on the action of alkaloids. These lipoproteins are responsible for the splitting of polypeptids (toxins) into amino acids by the red blood cells.

The most important and far-reaching explanation of the etiology of narcotic drug addiction disease lies in the fact that the lipoidal content of the cerebral spinal system varies in amount in strict accordance to the pathologic process introduced by infection or by alkaloids. This fact explains the pathologic changes caused by certain disease with well-defined symptomatology, and explains the symptoms caused in patients suffering from narcotic drug addiction disease.

It is quite interesting to know the wide scope of speculation regarding the irresponsible action of a great number of drug addicts, which speculation seems justified by the fact that some lipoids, like lecithin with cholesterol in the form of cholesteryl oleate, play an important part in the formation of myelin as it is found in the brain. The quantity of myelin in the normal brain differs from that found in the brains of those suffering from narcotic drug addiction disease, and to this fact we believe may be attributed the irresponsible action of a great many addicts.

The difference in lipoidal content of the normal spinal cord and of the cord of the addict is even more striking. We find in the tissues of the spinal cord that two-thirds of the solid matter is a combination of various lipoids of which, however, only a small quantity is found in the tissues of patients suffering for a long time from narcotic drug addiction disease.

Lipoids are easily demonstrated in the protoplasma of the nerve cells and in their nuclei and nucleolus (Muhlemann). I believe that lipoids play quite an important rôle in the whole metabolism, normal or abnormal, and that lipoids are of far greater importance, metabolically and therapeutically, than has heretofore been accredited to them (see Ciaccio's work on lipoids, and

Horovitz's article on "Biochemical Action of Lipoids upon the Waxy Capsule of Tubercle Bacilli").

The variety or specificity of the tissue lipoids seems to explain why different tissues have the power of assimilation or taking out of the circulation different substances. We have ample evidence of lipoids present in the macrophages, which lipoids play an important rôle in the defense against microorganisms, against their end products and against alkaloids.

VENTILATION AND HUMIDITY.

BY

ADAM H. WRIGHT, B. A., M. D.,
Toronto, Can.

Chairman Provincial Board of Health, Ontario;
Emeritus Professor of Obstetrics, University of Toronto.

Is the night air bad? I once heard a lady ask the late Dr. H. H. Wright. "I am not quite sure," he answered, "but I don't know how you can avoid it." The inquirer meant outside air as compared with house air. We may say now that outside air at night is not in some ways as good as that of the day, especially during sunlight, but it is certainly the best available.

In considering ventilation arithmetical computations are not altogether satisfactory, as mathematical correctness is generally impossible; but we may start with one estimate frequently made by hygienic authorities. Each adult is supposed to require an "hourly supply of 3,000 cubic feet of air for the removal of his own *effete* matters." (Harrington.)

If there is not a constant inflow of fresh air and outflow of used air, some vitiation occurs in a very short time. To get enough

of a continuous current is difficult in very cold weather in our climate. We must consider that ventilation goes hand in hand with heating, and the question of expense, especially with present prices of fuel, becomes a very serious one.

We expect much from diffusion and gravity, but they are not sufficient in inhabited rooms. Under ordinary circumstances there are inlets and outlets in every room thru flues, cracks, around windows and doors—even thru bricks, plaster and mortar: so there is always some ventilation even when we try to prevent it by double windows, papering the walls and closing up cracks.

The simplest and most common method, and perhaps the most effective, is to open a window. A short time ago I spent a week at St. Catharines, Ont. I slept in a large room with about 3,000 cubic feet capacity. I awoke early in the morning after the first night. I feared the air of the room had become vitiated (as it certainly had to some extent), got out of my bed and raised the window about one inch. There was considerable wind outside, and the air was cool, temperature 35° to 40°. I also opened the door three or four inches and returned to bed. The air of the room soon became perceptibly cool, and I thought fresh. I placed some more bed-clothing over me, slept soundly for over three hours, and awoke quite refreshed. As my bed was between the open window and open door I could distinctly feel the current of air passing over me before I went to sleep.

This brings up the important question of the draught which is considered so dangerous. We are told in that admirable textbook on "Practical Hygiene," by Harrington and Richardson, that draughts which are productive of discomforts are more dangerous than the ordinary vitiation of

the air. As I sleep in a draught with comfort and benefit during the greater part of the year—always when the temperature is not at or below zero—I have not that dread of a healthy draught which so commonly prevails. That precious draught of "God's pure air" is much maligned. For forty years or more I have been hearing of colds caused by draughts, and now I don't believe that one out of forty of such colds was caused by a draught. Germs, not slices of fresh air, are the most common causes of colds—especially "colds in the head."

However, it must be admitted that draughts are not always harmless. A cold draught within an enclosure is much like a cold breeze out-of-doors. You cannot expose yourself inside or outside in cold weather with comfort and safety, clad in pajamas or a bathing costume. If not properly protected by bed-clothing or suitable wearing apparel you will get unduly chilled and suffer evil consequences therefrom. You may call the result a cold if you like. It may be observed in this connection that the matter of protection from cold with proper ventilation in dwelling houses is fairly simple, tho it may be costly; but the question of heating and ventilating public buildings such as churches, schools, concert halls, etc., with safety and comfort to those assembled is a more difficult problem, which I shall not discuss.

To come back to our bedroom, one may properly ask, how much air should be introduced during our sleeping hours, or how large should the opening be? No fixed or definite directions can be given, but the following figures may furnish a rough guide. In the colder months raise or lower (or both, as I generally prefer) the window from one to twelve inches, or less than one

inch in zero weather. A temperature below zero will not now be considered. As before mentioned, I got in St. Catharines a stiff draught from an inch opening. The following night I found the inch not effective. I increased to about five, with result not satisfactory. According to my estimate more air came thru the inch opening in five minutes than was likely to come thru the five-inch opening in five hours. The inrush depends on various conditions, but chiefly on difference of temperature and degree of motion of the outside air. With equal temperature and perfect calm there will be no movement either way, and the chief interchange between the two atmospheres will then be that due to diffusion and gravity.

The chief requirement in the ventilation of a room at night is a regular income of air with a constant current, called by architects, "thro' ventilation." The most convenient method is to open a window on one side and a door on the other. The door may be wide open, or, if you want privacy, an opening of three or four inches will not interfere with the latter, and will be sufficient for ventilation. Open the window as far as deemed advisable. Keep draughts away from the bed so far as possible. If this is impossible, let the draughts come and go as they like, and sleep where you like. If you fear draughts it is a very simple matter to deflect the current by some of the many devices which are well known and used. Two of these may be mentioned:

- (1) Place a board lengthwise under the lower sash so as to fill completely the opening made by raising the window. We then have an opening where the sashes overlap each other.

- (2) Instead of the board, make a frame

the same size and fasten over it a diaphragm of flannel. Place this under the raised window. As the outside air passes thru this it will be filtered, *i. e.*, free from dust and dirt of all kinds.

It is advisable to have the temperature of the bedroom during sleeping hours about 50° in cold weather. If at bedtime the average temperature of the house is about 70° it is not prudent to retire with the air at that temperature when a cooling process takes place during the night, and get up in the morning in a shiver-producing atmosphere of 45° to 50°. To avoid this contingency it is well to open the window some time (say an hour or two) before going to bed. If the door is closed at the same time the temperature will be lowered in the bedroom without affecting the living room, where the temperature should not be reduced before retiring.

If, when getting into bed, you have sufficient covering to keep the body and extremities warm, you will be in a good, hygienic condition, and you can breathe the comparatively cool air quite as safely as you can respire even cooler air outside when you are walking or motoring along the streets.

The simple rules proposed apply only to an ordinary normal inhabited dwelling and are not suited for a sickroom, the proper ventilation of which will not be discussed in this paper.

It would seem fitting to consider other matters closely associated with ventilation, such as heating, lighting, plumbing, etc., but we have not the time now. There is, however, one important matter so intimately connected with ventilation that it should not be overlooked, *i. e.*, the necessity of providing moisture in the air of our dwellings during cold weather.

As to the amount of moisture actually required there is considerable difference of opinion. That may be due wholly or largely to the character of the climates in different countries. For instance, Sir Hermann Weber, one of England's most distinguished physicians, insisted on keeping the air in the house pure and dry. Our opinion on this continent is that we should keep it pure and moist during the cold season. The relative humidity should be about 50 per cent. If less than that, say 35 to 40, the dry air has a great absorbing power and it will take up moisture from persons and things—from the skin, the mucous membranes, especially of the respiratory tract, from the lips and nostrils down to the bronchial tubes, from wood furniture, from leather binding of books, causing them to crack and fall to pieces. It causes undue dryness of the skin, irritation of the throat with a cough sometimes bronchial, sometimes a laryngeal cough of a peculiar character, ending in a "squeal." The so-called "winter cough" is very common in Canada and the United States. Some of us found it very obstinate in the past, but we now think that the proper remedy in at least a large proportion of cases is the provision of moisture in the air we breathe.

The most common methods of inducing this moisture are by heating water in water-holders attached to our furnaces, humidifying pans fastened to our radiators, and various forms of humidifiers planned by architects and sanitary engineers. About two to four (or perhaps more) gallons should be evaporated per day in a fairly large house. Dr. H. J. Barnes, of Boston, has devised a humidifier which he uses in his office. It evaporates a gallon of water a day which produces about 53 per cent. humidity.

It fortunately happens that moisture in the air enables those who dwell in the house to live comfortably at a lower temperature as compared with a house where the air is dry. For instance, Dr. Barnes finds that the humidity produced in his office makes the temperature of 65° perfectly comfortable, where before he had required 70° or 71°. In my own home we use probably two gallons of water each day, and we are generally comfortable with a temperature of 65°. We think this saves a fair-sized chunk of coal each day. I supposed at one time that the mixture of a certain amount of outside air admitted during the day helped to increase the moisture within the house, but I learned from Mr. Dallyn, our Sanitary Engineer for the Province of Ontario, who has helped me materially in the preparation of this paper, that in winter cold outside air is dry, or becomes so almost immediately after entering the warm house so that we get no increase of moisture in that way. The percentage of moisture in the air is measured by an instrument called a hygrometer.

Let me conclude by a quotation from a pamphlet issued by The Potter Co., of Toronto, which tells us much that is true in a few words: "Imperfect ventilation and low humidity lay the foundation stone for catarrh, frequent colds, bad headaches, and general ill health."

Body Weight and Resistance of Children in Infection.—Fritz Stickler (*Arch. f. Kinderh.*, Stuttg., 1918, 67, Nos. 1-2) reports clinical observations on two hundred cases of scarlet fever and five hundred cases of diphtheria, and concludes that the clinical course and the outcome of the infection was much less severe in under-than over-nourished children.

Rational Organotherapy

The Signs of Endocrine Stigmata.—For practical clinical purposes says Blumentgarten (*New York Medical Journal*, Feb. 1, 1921), we may group the symptoms characteristic of each endocrine syndrome merely under the gland in connection with which they occur, irrespective of whether they indicate hyperactivity or hypoactivity. These symptoms, which we may call stigmata, may be used as indicators of the specific glandular influence. We can thus develop guides for organotherapy, but again the determination of whether the glandular disturbance is the etiological of the associated factor depends upon the general clinical consideration of the case and good clinical judgment.

THYROID STIGMATA.

Symptoms of So-called Hyperactivity.

Exophthalmos	Scanty and frequent menstruation
Wide palpebral slits	Emaciation
Tachycardia	Periodic loss of flesh and strength
Nervousness	Mild hyperthermia
Tremors	Increased basal metabolism
Stelwag's sign	Lymphocytosis
Von Graef's sign	Eosinophilia
Anginoid attacks	Increased coagulation time
Hyperidrosis	Increased emotional irritability
Deformities of the nails	Ideas of reference and persecution
Dryness of the mouth	Manic symptoms
Excessive salivation	Bluish white teeth
Vomiting attacks	High hair line
Diarrhea	
Hourglass contraction of the stomach	
Irregular breathing	

Symptoms of So-called Hyposecretion.

Precocious graying of the hair	Cold, bluish, moist hands
Drowsiness	Tendency to chilblains
Anorexia	Irregularly developed teeth which decay easily
Small stature	Defective development
Puffiness of the face	Dry, thick, scaly skin
Sallow complexion	Acrocyanosis
Scanty hair	Localized transitory edema
Deep set eyeball	Urticaria
Dull and listless cornea	
Hard, brittle nails	
Scanty eyebrows	

PARATHYROID STIGMATA.

Intermittent cramps	Tetany with associated
Twitchings of the hands	symptoms

PITUITARY STIGMATA.

Greatly thickened nose	Increased interdental spaces
Prominence of super-ciliary ridges	Enlarged sella turcica
Tendency to increased tufting of terminal phalanges	Hypertrophied, thickened skin
Coarse, heavy, overhanging eyebrows	Hypertrophied nails
Protruding thick lips	Short, square hands
Prominent hypertrophied lower jaw	High carbohydrate tolerance
	Amenorrhea
	Visceroptosis
	Increased sugar tolerance

So-called Deficiency Symptoms.

Adiposity	Slow pulse
Fat pads around the malleoli	Sluggish mentality
Increased development of the mammary glands	Mononucleosis
Deposits of fat around the buttocks and the neck	Eosinophilia
Alabasterlike skin	Leucocytosis
Irregular menstruation	Short stature
Subnormal temperature	Childlike voice
Wide intercostal angle	Bitemporal headache
	Supraorbital headache
	Fatigability
	Sterility
	Infantile uterus

ADRENAL STIGMATA.

Aggressive type of individual	Masculine type of female and <i>vice versa</i>
Increased growth of hair on body	Prominent canine teeth

So-called Deficiency Symptoms.

Asthenia	Fatigability
Low blood pressure	Pigmentation
Muscular pains	Sargent's white line

THYMUS STIGMATA.

Very long stature	General glandular enlargement
High palatal arch	Abnormally long thorax
Infantile epiglottitis	Visceroptosis
Lymphocytosis	Eosinophilia

GONADAL STIGMATA.

Hermaphroditism	Dull, lethargic mentality
Pale, anemic, waxy skin	Characteristic pyramidal pubic hair in males and flat in females
Flushes in the female	
Scanty growth of lanugolike hair	
Sparse eyebrows	

<i>Symptoms of So-called Gonadal Hyperactivity.</i>	
Precocious sexual activity	Marked fecundity
Jolly, gay disposition	Menorrhagia or metrorrhagia

Symptoms of So-called Hyposecretion.

Infantilism	Infantile uterus
Small atrophic testes	Nervous constipation

Late menstruation
Menorrhagia
Dysmenorrhea

Deficient lateral incisors
Sterility
Absent lateral incisors

PINEAL STIGMATA.

(Occur only in children)

Precocious sexual and mental development.

The Treatment of Hyperthyroidism.—

In hyperthyroidism the efficacy of radiotherapy is well established, but there is still a wide divergence of opinion as to the end results of both surgery and radiotherapy.

Rodenbaugh (*Cal. State Jour. of Med.*, Apr., 1921) states that this divergence of opinion is probably due to the difficulty and frequent inaccuracy of diagnosis. The use of basal metabolism estimation seems to have placed the diagnosis of hyperthyroidism on a fairly sound basis, and is particularly valuable when used to control treatment. Naturally, colloid, cystic and nodular goitres and those causing marked pressure symptoms are not amenable to radiotherapy.

In a well-controlled group of cases the work of Means and Aub and others, comparing the end results of radiotherapy, surgery and medicinal treatment of exophthalmic goitre can be taken as fairly indicative of the proper method of treatment in such cases. They conclude that the safest program for the treatment of exophthalmic goitre as a whole, is routine radiation of thyroid and thymus with surgery held in reserve for cases that do not respond.

The use of radiotherapy in goitre does not subject the patient to primary surgical mortality; there is a shorter rest period necessary and the end results are usually better. These cases, then, should logically be given the benefit of this benign method of treatment before instituting any more radical form of therapy.

Choline: A Hormone of the Intestine.—

J. W. le Heux (*Pfluger's archiv.*, 1919, p. 8) has identified and isolated a crystalline body from washed portions of rabbits', dogs', and cats', intestine, which he found had the power of stimulating intestinal movements. This substance he has shown to be choline. The combination of acetic acid with choline, producing acetylcholine, greatly increased its activity, the latter compound being 400 to 2,000 times as active as choline in stimulating peristalsis.

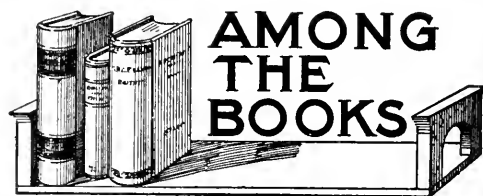
Deficiency Disease.—In a lecture to the British Medical Association, R. McCarrison (*British Medical Journal*, June 19, 1920) deals with the effects of deficiency of vitamins on the gastrointestinal tract. These effects are: (1) Dilatation of the stomach; (2) indigestion; (3) deficient action of the liver and pancreas; (4) airlocks in the small intestine; (5) impairment of the neuromuscular control of the gastrointestinal tract; (6) a tendency to intussusception and to the formation of gastric ulcer; and (7) above all, colitis (which in the presence of the specific organism may be a true dysentery).

McCarrison says that the study of vitamins cannot be wholly successful unless due attention is paid to the general principles of metabolism. When we know how many vitamins there are, and what are the specific functions of each, it may become possible to correct the defect, and to relieve with certainty the specific symptoms, as we do now in the case of scurvy. Colitis can be produced by a deficient diet with great regularity in monkeys, and can be cured by the provision of a suitable food; so also can anemia and dyspeptic disturbances produced by defective food. Defective diet leads not only to great muscular wasting, but to certain changes in the viscera. A patient who had been a martyr to dyspepsia for years, and had a greatly dilated stomach and was very anemic, on being found to have several of the intestinal derangements already mentioned, was fed carefully with vitamin-containing diet: he gained rapidly in weight, and made rapid strides towards recovery. In this case it was noticed that the vitamin promoted the flow of bile and pancreatic juice, as evidenced by the changes in the stools.

Gastrointestinal disorders in children—mucous disease, celiac disease, intestinal toxemia, and gastrointestinal stasis—have been found to be readily amenable to treatment by limitation of carbohydrates, increase of protein (in the form of eggs) and of foods containing vitamins, combined with the administration of a solvent of mucus and an evacuant such as grey powder.

The same author has contributed an extended series of elaborate articles on the "Pathogenesis of Deficiency Disease." These consist mainly of experimental details, and

deal with the effects of food deficiency on various organs of the body, including the endocrine glands.



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Opiates in Cardiovascular Affections.—Drs. Laubry and Esmein, in a communication to the *Medical Press and Circular* (Feb. 9, 1921), recommend the following preparations in the treatment of various cardiovascular affections.

A very excellent formula in which opium is associated with antineuralgics and small doses of cardiac tonics, and which should be more especially reserved for cases in which pain predominates, is the following:

Quinine sulphate, antipyrin àà 20 centigrammes; caffeine, powdered opium (àà 2 centigrammes), fiat cachet.

One cachet may be prescribed every three hours, the patient being thus kept under the influence of opium in small doses. The alkaloids of opium may also be employed "per os" with good effects:

Dionine, 20 centigrammes; cherry laurel water, 20 grammes. Ten drops to be given two or three times a day.

Morphine and heroin are excellent sedatives in painful crises, when combined with a rapidly-diffusible vasomotor drug, such as trinitrin:

Morphine or heroin hydrochlorate, 6 centigrammes; solution of trinitrin in alcohol (one per cent.), 60 drops; cherry laurel water, 20 grammes; distilled water, q.s., 100 grammes, one teaspoonful two or three times a day.

If a rapid action is required, nothing, however, is superior to a hypodermic injection of morphine.

Another useful formula, in which opium is combined with cardiotonics, is: Dover's powder, 20 centigrammes; powdered digitalis, 10 centigrammes in cachet.

This is especially valuable when there is insomnia. The use of opium presents special indications.

In *angina pectoris* the special indication is morphine. The latter should not be given from the outset. It is well to begin by one to three teaspoonfuls of the trinitrin-heroin solution, to be administered in the course of a quarter of an hour. If, however, pain persists, an injection of morphine should be made.

In *acute edema of the lungs* the authors are of Vaquez's opinion, namely, that an injection of morphine is the surest means of combating the danger of an attack.

Arterial hypertension may accompany very different morbid states. In certain cases hypertension is paroxysmal, the blood tension rising suddenly, and then falling to the normal again as soon as the attack has passed. In other cases hypertension is permanent, the maximum tension varying only within narrow

limits. Lastly, there are cases in which hypertension may be described as "oscillating," i. e., varies within very considerable limits. All these varieties may give rise to serious trouble, the cerebral, cardiopulmonary, and renal being the most frequent. In all these cases of vascular spasm playing, or being liable to play, an important rôle, opiates act usefully. One must, however, be very cautious in cases of very high permanent hypertension (atheroma arteriosclerosis). Here the cachet of Dover's powder and digitalis relieve dyspnea and insomnia.

In *dry pericarditis* the painful element can be relieved by fractional doses of Dover powder and opium. The medication should be dropped when an effusion appears and gives rise to pain mechanically.

Certain *valvular affections of the heart* may give rise to accidents necessitating the use of opiates, e. g., pulmonary embolism. An injection of morphine "locodolenti" relieves dyspnea. Dover's powder may be considered as a specific treatment of hemoptysis.

The same indications exist for *pulmonary congestion* in the course of mitral stenosis, and for cardiac accidents in the course of pregnancy. In the last phases of heart disease, cardiac cachexia, morphine remains the supreme medication.

In most cases of arrhythmia, opiates do not apply. Still, in paroxysmic tachycardia, when accompanied with a sensation of anguish, opiates succeed. Here one should proceed as in angina pectoris, for there may be danger of sudden death.

The Rectal Use of Neo-Arsphenamine.—Mehrtens concludes his paper, *Jour. A. M. A.* (Feb. 26, 1921):

1. Neo-arsphenamine can be safely given intrarectally, in doses as large as 4 gm.

2. Arsenic is absorbed into the blood after such injections, and larger quantities are eliminated in the urine than after ordinary intravenous injections of arsphenamine.

3. Arsenic persists longer in the blood in perceptible quantities after the rectal method with large doses than after ordinary intravenous methods.

4. About equal concentrations in the spinal fluid are obtained with either method.

We believe that, all things being equal, the intravenous method of administering arsphenamine and neo-arsphenamine is still the method of choice in most cases. But, based on the foregoing conclusions, we feel that the rectal administration of neo-arsphenamine has a place in therapy when massive doses are used, especially in the cases of children, those with difficult or impossible veins, and in the case of those in whom, for any reason, intravenous injections are dangerous or undesirable.

Luminal in Epilepsy.—Luminal, a phenyl-ethylbarbituric acid closely allied to veronal, has given Sands (*Archives of Neurology and Psychiatry*, Mar., 1921) most unusual results in the treatment of eighty-six cases of epilepsy

Sodium luminal rather than the alkaloid itself was used because of its greater solubility. As a general rule, the dose employed was three-fourths of a grain, three times a day, but each patient was carefully studied before a definite dosage was given. While some patients required more than three doses a day, others did better on only one dose given just before retiring. The first improvement noted was a decided decrease in the number of seizures. There was a definite diminution in the nature of the seizures, the convulsions being much milder and of shorter duration. There was a definite decrease and change in the unpleasant after-effects of the seizures. There was a definite favorable impression on the menstrual function of patients. It was possible to parole patients who otherwise would not have been considered fit to leave the institution. The patients became much quieter and more amenable to care and treatment. There was a decided decrease in the number of injuries received during seizures, and in the number of altercations with other patients. Less demands were made on the overworked nursing staff. The after-effects of the drug have been practically nil. There were no cumulative effects in any of the cases; there was no dulness, no exanthems, no paralysis, indicative of toxic effects that have been reported by other observers. However, with the discontinuation of the drug, the seizures return at more frequent intervals and with greater intensity. This and the fact that as yet the manner in which the drug acts is not understood, Sands says, would indicate that the drug should be used with caution and only by trained men.

The Treatment of Septic Arthritis of the Knee Joint.—E. O. Jones (*The Therapeutic Gazette*, November, 1920) considers four groups as follows:

(1) Metastatic arthritis.

Of these there were four cases. All were treated by aspiration. This followed by an injection of formalin and glycerine. A Thomas splint was then applied with moderate extension for three days, when active mobilization was begun. All recovered.

(2) Penetrating wounds of the joint with out bone injury.

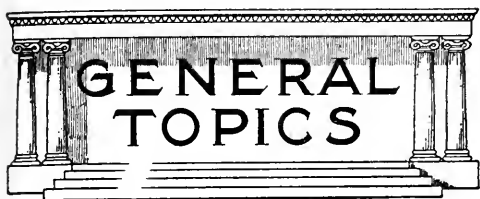
These cases were treated by long lateral incisions. The joints were not explored or irrigated unless foreign bodies or bone fragments were present. The wounds were left entirely open and within 36 hours active mobilization begun under supervision. No secondary suture was performed. The wounds were allowed to heal by granulation, following the technic of Willemis.

(3) Penetrating wounds of the joint with varying degree of injury to the articulating surfaces of the bones.

Whenever pus pockets appear in the leg or thigh conservative treatment ends.

(4) Compound infected fractures of the shaft of the femur or tibia with fissures extending from the main seat of fracture into the joint cavity.

All compound fractures of the lower end of the femur or the upper end of the tibia when pus appears in the joint, amputation is imperative.



Heart Failure.—The symptoms of overtaxing the heart are frequently called symptoms of cardiac failure, so states T. B. Barringer, Jr. (*Jour. of the Amer. Med. Assn.*, April 23, 1921). Strictly speaking, this is incorrect. It is true that they are always present in heart failure, even in the absence of exertion; but they are not peculiar to heart failure for, as has just been said, they are present in normal persons and in persons with heart disease, in whom there is no suspicion of heart failure. It is their progressive increase during smaller and smaller amounts of physical exercise which is characteristic of heart failure. Therefore, the term "cardiac failure" should be used only to indicate that condition showing either a sudden failure of the heart, as in pulmonary edema following coronary sclerosis, or a gradual failure, evidenced by a progressive decrease in the heart's reserve power (i. e., declining exercise tolerance) and the signs of venous congestion.

Exclusive Meat Diet.—According to Butler (*Amer. Jour. of Clinical Med.*, April, 1921) the exclusive meat diet is an exceedingly harmful fad of this sort, which is responsible for making a large number of people miserable with maladies that are the outgrowth of acid poisoning.

The no-breakfast plan and the raw-diet fad are less harmful notions, but possess little better foundation in scientific fact. The stomach of a man who eats a hearty six-o'clock dinner is in no way fit for breakfast the next morning, and is in greater need of nothing more than a good rest. The sensible way, however, is to omit the six-o'clock meal, taking instead a little well-ripened fruit, and nothing else, avoiding cream and cane sugar. Some foods may be eaten raw without injury and, in some cases, even with advantage.

Fruits and nuts are by nature prepared for digestion without the aid of cookery, while dry grains and vegetables cannot be well digested by the human stomach without the aid of preliminary digestive processes, which may be affected by exposure to moist or dry heat. The heat of the "sunshine" coming out of the glowing fire does for the starch of the vegetable and the grain exactly what the sunlight does for the starch of the green fruit. It dextrinizes it and thus prepares it for prompt digestion by the human stomach. It is just as

reasonable to feed a dog on dry grains and grass as for a man to undertake to subsist upon a similar dietary. Man is naturally a fruit and nut eating animal. Dry grains and herbs in a raw state are adapted to animals who have stomachs especially adapted to the digestion of such foods. The goat with its four-stomach-power digestive apparatus, is able to make sugar out of paper and to extract a mild sort of nourishment from drygoods boxes. In other words, it can live and thrive, for a time at least, on wood and water.

The same is true of sheep, cows and other herbivorous animals. Even horses, altho their digestive apparatus is less complex, are able to digest wood to a certain extent. But the human stomach, like that of the ape, gorilla and chimpanzee, is adapted to the digestion of more elaborated and easily assimilated foods. Those animals which live on coarse herbage and raw grains must devote a large share of their energy to the extraction of nutriment from their crude diet. The process of developing energy from corn and hay is a very slow one. The energy of fruits and nuts is more readily available. The sugar of fruits is already completely digested and, being quickly absorbed, shows its presence in the body by an immediate increase in energy and working ability. By contact with the digestive fluids, the dextrin which abounds in fruits and nuts is almost instantly changed into sugar, which represents energy in a form immediately available.

Probably, many persons have experienced benefit by a change from their ordinary fare to a raw diet, chiefly thru the fact that the change was equivalent to a mild starving process which, in a person whose tissues have been filled with uric acid and other tissue cinders thru flesh eating and overeating, is a sovereign remedy, superior to every other that can be suggested.

Significance of Unequal Pupils.—The chief significance of unequal pupils lies in their being an important indication of some widespread and deeply seated disease. Brooks (*Jour. of the Amer. Med. Assn.*, April 23, 1921) says that:

1. With the exclusion of eye disease and refractive errors, unequal pupils are always pathologic.

2. The width of the pupil and its reaction at any given time are the result of the constant antagonism between the contracting fiber of the third nerve and dilating fibers of the cervical sympathetic.

3. The determination of whether or not we have to deal with an irritative or paralytic lesion will help materially in the recognition and proper interpretation of unequal pupils in any given case.

4. In contusion of the eyeball, besides the concussion, small lacerations and extravasation of blood into the iris muscles account for some of the pupil changes.

5. In head injuries, the dilated pupil corresponds to the side of increased pressure.

NEWS NOTES AND ANNOUNCEMENTS

Shortage of Rural Doctors.—Migration of the country physician to the city has stripped some parts of rural New England of medical men. A bill is now before the Massachusetts Legislature to permit any town which has no doctor to appropriate money to induce a physician to establish himself in the community. Several towns have voted to guarantee a \$500 a year income to obtain a physician.

A New Degree in Medicine.—The Harvard Medical School will hereafter offer a new degree in medicine in addition to the time-honored M. D. It will grant the degree of Doctor of Medical Sciences (M. S. D.) to men who have specialized in their training in research work and the laboratory development of medicine rather than the clinical branches. It is hoped that by making a feature of this department more medical students will be attracted to research work. Dr. David L. Edsall, Dean of the Medical School, in announcing the new degree, states that in the laboratory branches there is really a disturbing paucity of capable and well-trained instructors, and that if things go on as at present the laboratory branches will suffer seriously in both their instructional and investigative activities.

France Makes Physical Training Compulsory.—The French Chamber of Deputies unanimously adopted a bill on March 22, making physical training compulsory for young people of both sexes. Boys over sixteen years of age must continue physical training, consisting of gymnastics, running, tennis, and other athletics, according to choice, until they are incorporated into the army or navy. Girls in the primary and secondary tuition grades must also adopt physical culture, according to special rules to be issued by the Ministry of Public Instruction.

Violent Deaths Decrease in New York City.—In his annual report to the Mayor, Dr. Charles Norris, Chief Medical Examiner, shows that there was a decrease last year in the number of violent deaths in the city compared with the totals in 1918 and 1919. The total number of violent deaths in the five boroughs in 1918 was 6,200, of which 1,415 were autopsied; in

1919 the total was 4,709, with 1,462 autopsies; in 1920, the total was 4,519, with 1,688 autopsies. Automobiles and automobile trucks caused 692 deaths, 50 per cent. of these being children under thirteen years of age. More than 50 per cent. of all these accidents were due to carelessness in crossing streets. The number of deaths from wood alcohol decreased from 54 in 1919 to 19 in 1920. Dr. Norris, in his report, asks that a special judicial clearing house, or homicide court, be founded in connection with cases of death by criminal violence or by casualty or highway accidents.

Prescription for Liquor Checked Up.—The prohibition office has checked up the prescriptions written for liquor in a little over a year, and finds that 13,800,000 prescriptions were written by 45,000 physicians who are licensed to prescribe liquor for patients. Most prescriptions called for one pint of liquor.

Vacancies in the Medical Corps of the United States Navy.—Surgeon-General E. R. Stitt announces that there are at present a large number of vacancies in the Medical Corps of the Navy, and examinations are held at frequent intervals in several of the coast cities of the United States, and also at Chicago, Ill. For the present, appointments will be made directly into the Medical Corps of the Navy instead of by preliminary enrollment in the Naval Reserve Force. As a consequence of this change, successful candidates who may be ordered in attendance on a course of instruction at the Naval Medical School will be given an examination upon the completion of such course for the purpose of determining the value they have received from the instruction, but not with a view to determining their position in the regular service, this being accomplished by the entrance examination. Circulars of information for persons desiring to enter the Medical Corps of the Navy may be obtained by addressing the Surgeon-General, U. S. Navy, Navy Department, Washington, D. C.

Baby With a Tail.—That seventy cases of people with noticeable tails are known to science was the statement made by Professor Arthur Keith, F. R. S., in a lecture recently to the Royal Anthropological Institute, Great Russell Street, W. C. "Quite the best instance of a baby with a visible tail came under the notice of Professor Harrison Ross, of the Johns Hopkins University, United States," said Professor Keith. "This child used to show its emotions with its tail. The fact is that every one of mankind has an inner tail, but only about one in a million has an outward tail. A tail is incompatible with the upright posture, and man lost his outward tail when he began to walk upright."—*Med. Press and Circular*.

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B. EDWIN LEWIS, M. D., *Managing Editor*

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In Advance

Educating Parents.—The diffusion of knowledge concerning the up-bringing of children becomes of value when parents themselves become interested. The stimulation of child study by private organizations, particularly of mothers, merits encouragement wherever and whenever it presents itself.

Public meetings under the auspices of medical societies are occasional, and the results attained are inadequate because there is no follow-up method applied to capitalize the interest that has been generated. In small communities, particularly, great advantages would accrue if, after public meetings, small groups could be secured for the more thoro discussion to topics of hygienic and educational interest. To illustrate the possibilities of work of this character attention is called to the organization of study under the auspices of the New York Federation for Child Study whose declared purpose is "Helping parents make their parenthood more intelligent, more efficient, and of the highest use to their children. To replace information with knowledge, and routine with understanding. To replace friction with sympathy; to replace impulse with purpose."

In at least ten states of the Union there are organized groups of affiliated chapters, meeting weekly or bi-weekly, for the intensive systematic study of child nature. A reflection upon some of the subjects con-

sidered should be highly suggestive to physicians, not merely because of their professional status but because of their specific interests as parents. Different groups are devoting months to such subjects as "The Child," "Child Training During the Pre-adolescent Period," "The Adolescent Period," "Sex Education," "Religious Training of Children," "Moral Development of Children," "Fundamentals of Child Study," "Pros and Cons of Modern Educational Methods" with special lectures upon the essential need of the proper education of the body to insure the best health to the next generation; "The New Ideals of Health," "Safe-guarding the Child's Personality," and similar topics dealing with the physical, moral and mental welfare of children.

This phase of educational work offers numerous opportunities for interested physicians to raise standards in their communities and to unite groups of intelligent parents for the purpose of improving home conditions for children on the basis of an intelligent appreciation of the problems in their manifold phases.

Under our existent system of education, home making has received inadequate attention. The colleges of the day for men and women ignore the subject of parenthood and fail to give the degree of training essential for preparing the growing generation for the assumption of responsibilities, which from the communal standpoint are

of basic importance. Recognizing the importance of intelligent parenthood the medical profession might well attempt to leap into the breach, and under proper auspices establish courses for instruction and discussion for the benefit of young parents. Centers might be established in schools, churches, settlements, the halls of medical societies, or indeed in the homes of interested patients. Taking the initiative in this direction would be of inestimable value in advancing the health and welfare of the growing generation, and would lead to the more active leadership of physicians in the cultural life of their communities.

Whistling.—The task of mollifying the public is by no means simple. There are gallons of wasted ink yearly spilled in pen-point doses to assuage the disgruntled feelings of patrons of all forms of business. No handy letter writer suffices to offer form letters to meet the varying conditions which arise in daily human contacts.

It is rare, indeed, to note a corporation publishing some of its personal letters to indicate its underlying practical philosophy. For this reason there is particular pleasure in calling attention to a publication of the Fifth Avenue Coach Company of New York City entitled "Answered in Full." There is a wealth of wit, reasonableness, and saneness in this random collection of letters written to patrons of the Company in response to criticisms and complaints as well as expressions of satisfaction and appreciation. One letter particularly attracted us, that of a patron who complained that he was annoyed by a whistling conductor. From the answer this quotation commends itself: "Time was when whistling was

nothing more than an outward expression of a light heart and a cheerful disposition. Today, with its economic problems, high rent, high cost of living and general unrest due to the preachment of foreign, irrational and unsound political and economic doctrines, whistling or any other form of expressing inward happiness and contentment is indicative of much more than that:—it is the outward reflection of a big, splendid spirit, an indomitable will and good courage—a courage founded upon a stout heart and a wholesome philosophy of life."

One may regard whistling as a form of physical exercise involving the improvement of the respiration, or an evidence of a state of well-being that expresses itself thru music, or as a mental prop to strengthen one in the midst of the temptations, the hazards, and the dissatisfactions of life. Regardless of the point of view, it is patent that this innocent diversion, even tho possibly discordant, is at once the evidence of joyousness or the means of promoting temporary comfort.

In these days of prohibitions there is a tendency to clamp the lid down over everything that contributes to human pleasure. There are those who whistle for want of thought, to bear their courage up and to keep from being afraid, but many more are like Spanking Jack who "was so comely, so pleasant, so jolly. The winds blew great guns, still he'd whistle and sing." Good nature and joviality, freedom from worry, the mastery over griefs and anxieties, and the ability to rise above trivial annoyances are reflected in the shrill or musical tones of whistling humanity.

The letter writer properly called attention to the sensitive and nervous patrons whose jangled nerves evidence a lack of knowledge of how to live or how to meet

the serious problems incident to this day and generation. From the standpoint of public comfort it would probably be better to encourage the whistling of light-hearted conductors than to tolerate the sourness and and gloominess of hyper-sensitive malcontents. The mental relaxation of the absorbed whistler contributes to his physical and mental development, and unless viciously unmusical, he should not jar upon the nerves of well-balanced individuals who understand that light-heartedness is an essential factor in promoting individual comfort and communal resiliency. If whistling is doomed, happiness is damned.

Extra-Medical Phases of Tuberculosis.

—In order to secure large health appropriations it appears to be important to indicate the economic loss which communities sustain by virtue of different types of diseases. In a businesslike program of municipal administration a financial argument is of more avail than an appeal on sentimental grounds. Dublin and Whitney, writing on "The Costs of Tuberculosis," in the *Quarterly Publication of the American Statistical Association*, December, 1920, present interesting facts of a statistical nature indicating in the first place the extent to which tuberculosis shortens the average span of human life.

Basing their figures upon the experiences of the insured wage-earners in the Industrial Department of the Metropolitan Life Insurance Company for the period of years covering 1911-1916, and upon the total population of the Registration States as constituted in 1910, they determine that "White males lose 3.5 years in all, or 7.6 per cent. of their entire expectancy; white females,

2.6 years or 5 per cent. of their expectancy. The heaviest losses occur among the colored people. Colored males and females lose an average of about 5 years of life because of the inroads of this disease, or 12.0 and 13.2 per cent., respectively." In the general population the loss in years is 2.4 at age 20, 1 at age 40 and 0.3 of a year at age 60.

The losses in expectation of life are translatable into terms of estimated monetary loss. It has been adjudged by economists that each year of life expectancy loss, due to tuberculosis, by the population of the United States represents a loss of \$100 in national wealth. Hence, as tuberculosis mortality lowers the life expectation of all individuals under present mortality conditions by two and one-half years, the loss per person is \$250. This represents a loss of twenty-six and a half billions of dollars for the one hundred and six millions of people in the United States. Since 50 years is approximately the average life in the United States, this loss becomes an annual charge of over five hundred million dollars, merely by reason of the decrease in longevity of individuals in the population because of tuberculosis.

To this large sum there must also be added losses which arise because of the long periods of illness that tuberculosis entails. There must be added the financial costs of medical, nursing, and dietetic care, hospital charges, losses from disability for work, and in addition the incidental losses that arise from the diversion of the efforts of other potential wage-earners to the home care of the afflicted. These costs have not been carefully determined, but their immensity is obvious to anyone familiar with the economic phases of caring for tuberculous families who, previously self-supporting and independent, are reduced to the

extremity of receiving relief from philanthropic agencies.

It is patent that anti-tuberculosis campaigns are costly, but the reduction in the mortality rate and the rate of incidence of tuberculosis justifies immeasurably larger expenditures than have thus far been made. This becomes more apparent in recognizing the relation between tuberculosis and numerous other diseases which may be dependent upon the fundamental deficiencies which are largely accountable for the dissemination of tuberculosis. Susceptibility to tuberculosis is increased by the prevalence of numerous diseases which undermine resistance; and, in turn, tuberculosis lowers vitality and thus tends to increase the death rate from numerous pathologic conditions in which it is not necessarily the direct etiologic factor. In other words, the hereditary environmental conditions are so thoroly interwoven that a general attack upon tuberculosis improves the general health of communities and tends to decrease the loss of longevity from various other important causes. Thus the money expended in the control of tuberculosis of this country secures innumerable advantageous results for the country in raising the general health standard of the population. Not only are losses of longevity decreased, but national health is conserved thru the protection of national vitality.

Protecting School Children.—As the traditional school year draws to a close, problems of medical inspections of school children would appear to be of little consequence. Unfortunately, the method of medical inspection was grafted upon the school system with a view to determining

the physical handicaps and contagious diseases of children in regular attendance at school. This work is beyond the field of experimentation. Its value to communities has been determined, and its communal gains are susceptible of evaluation.

It would appear to be of considerable benefit if a more preventive phase of medical inspection could be developed. Usually at the conclusion of a school year there are registration days for children who in the fall are to enter the kindergarten or early grades of school. It is highly desirable that these children receive their physical examination during the month of June with a view to having the noted handicaps corrected as far as may be possible before the advent of the next school session. There would be no additional cost to the community to turn the medical inspectors into the field of examining applicants in June so that they might be prepared for their educational experiences before they actually begin. It would be possible by this means to insure full vaccination, determine and immunize the diphtheria susceptibles, and begin the work of correcting such deficiencies as dental decay, malnutrition, diseased tonsils and enlarged adenoids, spinal deformities, and determining those of low mental status.

The physical examinations having been made, supplemented by mental tests where indicated, it would be a comparatively simple matter of administration to secure an adequate degree of follow-up work to achieve the amelioration or elimination of handicaps during the summer months. The simplicity of the procedure, its general availability where school medical inspection is now practiced, and its desirability from the standpoint of health and education serve to emphasize its reasonableness as a plan

which thus far has not been introduced in our general scheme of public health program.

The method suggested would serve as a strong stimulus to a wider and a broader understanding of the present campaign for greater health activity among children of the pre-school age. The school would become a center for radiating knowledge concerning the advisability and the importance of caring for the health of school children, and more particularly in giving the earliest possible health service to children approaching the school age. This course of action would in turn reflect favorably upon all efforts to reach the younger children, particularly in households possessing children already at school. Thus, there would be an opportunity provided for a more or less continuous health oversight of children from the pre-natal period to and thru the school age in those communities fortunate enough to possess the agencies that deal with pre-natal care, infant welfare, and medical inspection of schools. It would further create more opportunity for existent agencies to give a larger measure of service to their respective communities. Hospitals, clinics, health centers, and similar constructive and productive factors in community life would feel the urge that arises from a demand for health work. There would be a vast increase in the health and nutrition of children and an increase of their vital resistance with both the improvement of their educability and the protection of the community against the hazards incident to a school population physically and mentally below an efficient normality.

It is for this reason particularly that physical and mental examinations are valuable when introduced at the earliest possible practical point of contact of children

with established institutions such as those dealing with health and education.

It is a waste of time and a lack of foresight to delay the medical school inspection unnecessarily. The maximum results are to be achieved thru the prompt institution of examinations at the time of registration. When this event occurs during June it is needless folly to wait until the succeeding September or January to begin the medical inspection. School children should be prepared physically for the strains and influences of education before the bell rings and the classes assemble in Autumn.

Milk Vitamines.—Less than a generation ago there was a general fear of the child's second summer. The heat and humidity were regarded as responsible for the terrific infant mortality. Investigation and study demonstrated that an educational campaign on infant hygiene, an improvement of the milk supply and its protection thru pasteurization or sterilization, sufficed to reduce the infant mortality. Milk sanitation was undoubtedly a prominent factor in overcoming the hazards supposedly inherent in summer time.

The dependence of infants upon milk supplies led to the belief that it must be a perfect food. This idea, however, has undergone considerable alteration. Milk is a reasonably complete food offering the protein, fat and carbohydrates, a variety of mineral salts, particularly calcium, and possesses a moderate degree of vitamines. In the development of infants and children milk is an essential, but its limitations merit recognition. Milk does not possess constant structure nor an invariable chemical composition. For this reason there is con-

siderable material for thought in M. J. Rosenau's discussion of "Vitamines in Milk." *Boston Medical and Surgical Journal*, (May 5, 1921).

He calls attention to the fact that biologic experimentation has demonstrated that the fat soluble A, water soluble B, and the antiscorbutic vitamine in milk constitutes it an excellent protective food in fending off deficiency diseases. In as much as milk during the summer time is subjected to various heating processes, it is of more than academic importance to know that the heat used in pasteurizing, boiling, evaporating, condensing and drying milk has little effect upon either the fat soluble A or water soluble B.

The effect of heat upon the antiscorbutic vitamine depends more upon the duration of the heating process than the degree of temperature employed. The decrease of the antiscorbutic vitamine is more dependent upon oxidation, and in consequence the variation of this vitamine potency is more dependent upon exposure to air than to the processes involved in heating, drying or canning milks. It is patent, therefore, that there is reasonable safety in all canned and dried milks which retain their original vitamine content providing that there has been no opportunity for oxidation. The single vitamine most likely to be decreased is the antiscorbutic vitamine which will entirely vary with the amount present in the original milk, as well as upon the degree of oxidation possible during the process of heating and evaporation.

This question of the stability of vitamins in foods is of importance and it is reassuring to recognize that the mere age of a food, as milk, is of secondary importance, providing that the preservative methods are carried on in the absence of oxygen. The hu-

man animal is dependent upon many vitamins synthesized in the plant kingdom. Man is unable to liberate or to store them. The amount of vitamins available, therefore, depends upon the composition of plants which in turn varies with the soil in which they are grown. In as much as cows' milk varies with the fodder of the animals, considerable importance attaches to the feeding habits of the herds giving milk supplies. Summer milk, therefore, possesses a higher degree of antiscorbutic value than the winter milk supplied by cows deprived of grazing facilities.

The effects of food deficiencies on cows' milk are well exemplified in similar deficiencies of breast milk as a result of the vitamine deficiencies in the food supply of the mothers. The development of scurvy or beriberi in breast fed infants is indicative of the gross defects in the maternal dietaries and these deficiencies are not in terms of calories or of available protein, but largely in low vitamine content. It becomes necessary, therefore, to recast our opinions upon the food values of all food stuffs in the light of our growing knowledge of vitamins. Unfortunately our knowledge is limited and definite facts are few. Their nature and composition are unknown. The study of them thus far is biologic rather than physical or economic. At the same time we have arrived at a place where there is a greater useful knowledge concerning the relation of the three distinguishable vitamins to safe nutrition. It is for this reason that the value of milk in the dietary is more certain than when its composition was being discussed in terms of protein, fat, and carbohydrates. Under present conditions, pasteurized milk, canned, evaporated or dried milk appears to be safe and healthful.

The exact status of certified milk remains

to be determined in the light of its vitamin content which may be altered by reason of the fact that the cattle of certified herds are not permitted the freedom of grazing which is the right of ordinary milk-producing animals.

Good and Evil.—One of the permanent values of the work of Dr. E. E. Sutherland, late Director, Massachusetts State Psychiatric Institute, lay in the philosophic background of his viewpoint upon human problems. His interest in individuals broadened out into a conception of human values, in which the individual was as much an effect as a cause. His efforts were directed to an investigation of the centripetal and centrifugal forces directing and misdirecting the conduct and character of social groups and the social and anti-social individuals.

In the posthumous publication of Grail or Dragon, *Mental Hygiene*, 1921, there appears the interesting hypothesis, "that the prime task of society is the destruction of evil." As his contribution to this theoretic dictum, he arranges a classification of the evils of the world, arranged in thirteenth century form, as a proposed *Regnum Malorum*. His tabulation establishes the major groups of evil as he conceived them:

Diseases or defects of body and mind	Morbi
Ignorance: misinformation and educational deficiencies	Erroris
Vices and bad habits: non-psychopathic	Vitia
Legal entanglements	Litigia
Poverty and other forms of resourcefulness	Penuriae

This comparatively simple philosophic division of society's evils was designed for usefulness in diagnosis and as the basis of

treatment. If the evils of the world, therefore, are to be specified as medical, educational, ethical, legal and financial, obviously the tasks for social rehabilitation through maleficidal efforts at once become hygienic, pedagogic, moral, juristic and economic. The terminology is immaterial save for the purpose of clarifying ideas. It is possible to consider conditions which might with difficulty be placed in one of the major categories, but from a practical standpoint the breadth of these groups of evil is adequate to include, in part at least, almost all of the difficulties that are brought to light in medico-social work.

The problems of psychiatry involve the interaction and varied combination of elements from all of these groups. It is possible that in specific individual difficulties attention directed to one form of evil may suffice to relieve the pressure of other factors of the group. One or more of the major factors may exert a primary dominant influence, or, on the other hand, only one may exercise the leverage necessary for distorting character or dissociating community spirit.

While Dr. Sutherland advocated the amelioration of conditions by the destruction of definite evils rather than the construction of indefinite good, it is patent that decreasing a negative quantity makes it more nearly approach a positive quantity. The difference between minus two and plus one is greater than that between minus one and plus one. Recognizing that it is easier to tear down than to build up, one appreciates that the materials for construction may be secured from the materials that have been secured from demolished structures. Fortunately, the destruction of the forces of evil releases the handicapped pressure upon innate good. Wherefore, it may be properly

argued that destroying evil relatively adds to good, and the negative effects of evil being removed the positive benefactions of good are freer to operate.

In the realm of public health, preventive measures represent an attack upon potentially harmful circumstances and conditions, as a result of which disease is actually decreased. By reason of this effect the sum-total of human welfare is augmented. One may utilize Dr. Sutherland's classification of the Kingdom of Evils in the entire sphere of preventive medicine, even though his original application of them was in the field of psychopathic etiology and pathology. The value of his conception is by no means as hypothetical as would appear from his statement of it. Social medicine abounds in the application of his theory of destroying evils. The search for etiology is based upon the idea that the malevolent factor having been determined, society's task is simplified thru the opportunity of directing its agencies against the etiologic factor, regardless of its origin.

Medicine in all phases is directing its attention to the moral, legal, economic, educational and medical elements responsible for personal and social maladjustments. It is now a common practice to direct systematic efforts against evil as the means of accomplishing the greatest good. The destruction of evil is in itself a constructive good.

Hospitals.—The Council on Medical Education and Hospitals of the American Medical Association has made its annual report of Hospital Data in the *Journal of the American Medical Association* (April 16, 1921). The report discloses that there are 6,152 hospitals, sanatoriums and homes

with a total of 817,020 beds. This makes a provision of one bed for every 129 people in the United States, taking the population as of the 1920 census.

There are, approximately, 4,000 hospitals—private, general and special inclusive, of state institutions mainly devoted to the custodial care of the tuberculous, the insane, and the incurable.

The total number of beds in the United States would appear to be indicative of adequate provision for the care of the sick, but unfortunately the proportion of beds to population varies considerably in the country. Nevada, for example, has only 19 hospitals, but one hospital bed for every 139 people, while New York with 371 hospitals has one bed for every 185 people. The state of Mississippi, however, has only one bed for every 1,054 people. It must also be borne in mind that the availability must be considered not merely in relation to population but also the number of square miles of territory approximately drained by each hospital. The North Atlantic states have the fewest number of square miles per hospital, but the ratio of beds to population is higher than that existent in the Western states, which has the largest number of square miles per hospital.

It is apparent that the number of occupied beds testifies to the general usefulness of the hospitals in general, and suggests to some extent the degree of existability of the hospitals to portions of the population. This is by no means significant, however, as the percentage of beds occupied in hospitals only varies from 61% to 69%. It is far more important to note the percentage of counties within states that possess no hospitals. North Atlantic states average only 15.3% of counties without hospitals as contrasted with 73.8% of the counties with-

out hospitals in the South Central states, 62% in the North Central states, 68% in the South Atlantic states, and 41.4% in the Western states.

The locations of hospitals, in order to satisfy the needs of communities, present many problems difficult to overcome, particularly in the sparsely settled sections of the country, and especially in the mountainous states. However, these difficulties are not sufficient reason for failure in hospital distribution, because the South Central states have the highest number of counties without hospitals, and sparse population and mountains do not adequately explain the shortage. The data which have been made available should be carefully studied by those interested in the extension of hospital service, particularly in the development of counties and rural communities.

The basic facts which are involved indicate that the total number of beds available does not offset the improper distribution of hospitals, and in the building up of the hospital system, careful thought should be given to the establishment of such institutions in regions that are not abundantly supplied. There is every reason to believe that the growth of hospital service will be enhanced by a careful understanding of the needs of communities as interpreted in the light of the existent data concerning the number of hospitals, their location, and their distribution with relation to population and transportation, and the specific needs of units of population such as are involved in the county divisions of our states.

Posture and Seating.—Fatigue depends upon many elements, as is obvious from the fact of its all too general existence in society. The rapid growth of industrialism

is responsible, in part, for the development of many unnecessary conditions contributory to its development.

In the evolution of the modern factory system, machinery has been highly developed and every thought has been devoted to studying the conditions under which it can work with the greatest efficiency. There is constant research as to methods which will tend to maintain the workability of machinery without injury or unnecessary deterioration. Compared with the emphasis placed upon the machine, the thought devoted to the human worker has been comparatively small. The needs of the living organism have been subordinated to the requirements of a type of mechanism far less intricate than that of the human body.

Bulletin No. 104 of the New York State Department of Labor is devoted to a consideration of industrial posture and seating with a view to indicating efforts that have been made to reduce industrial fatigue in a practical manner. The general conclusions reached in the report are: That varied posture must be secured in order that the worker may gain in energy and thus be free from the destructive tendencies incident to continuous sitting or continuous standing. It is also agreed that work conditions should be such that correct posture is possible. This involves the provision of a physiologically adapted chair, and the insurance of a proper relationship of the different parts of the work place.

It is not necessary to call physicians' attention to the effects of prolonged standing upon workers with flat-feet, knock-knees, varicose veins, any more than it is necessary to point out the evil effects of constrained positions in sedentary occupations which interfere with the proper functioning

of the body. The continued irritations of constipation and hemorrhoids, and gastrointestinal disorders are not to be ignored any more than the tendency of indoor workers to succumb to tuberculosis.

The institution of rest periods at fixed times and for a definite number of periods, or within the reasonable discretion of the worker has proven its hygienic and industrial worth. It is patent that slight degrees of fatigue may be readily overcome if rest is immediately supplied, while the accumulation of fatigue demands a long period of cessation from labor and may lead to physical breakdown.

It is obvious that posture depends upon the physical well-being of the individual and is greatly affected by working conditions. For this reason a study of seating in industry may not bring about a standardization of chairs, but does shed much light upon the question of chair adjustability, the type of back to be provided, the place of foot-rests, the height of the seat, and similar other elements which must be considered in making the adjustments of seating effective for particular trades, or indeed for special processes. Unfortunately there is a dearth of definite knowledge concerning seating in industry. Manufacturers, however, are beginning to realize the importance of equipping the human machines for efficient function with the same degree of thoughtful care that is given to the installation of inanimate apparatus. Their point of view is slowly altering to accept the principle that whatever safeguards the health of workers promotes plant efficiency. Rest periods, or physiologic seating permitting freedom of movement, contribute to increased production, and for this reason pays. The additional output is further supplemented by a decrease in sickness

among employees, and a further saving by a lessening of labor turnover.

In the desire to decrease the waste from fatigue, posture and seating are of great importance. The attention which has been bestowed upon school equipment and the impetus which has been given the subject by the American Posture League indicate the recognition which has been given to this problem in relation to education. The application of similar principles to vocations is merely an expansion of the educational theories. It is undoubtedly true that still further thought upon the subject may be given to the questions of furniture, as utilized in the home, whose physiologic character is partially responsible for much of the discomfort that arises from faulty positions assumed in the home itself.

When manufacturers are willing to give time and money for the correction of available conditions in their shops, stores and factories, it would seem as tho their example might merit emulation in the general field of human comfort. This covers problems of seating in the home, the church, the school, the Sunday School, theaters, recreation places, settlements, and all other environing places whose existence is designed to promote human comfort and welfare.

There is a wealth of suggestion in the report above mentioned which merits a reading by those interested in lessening fatigue and increasing human comfort, efficiency and vitality.

"MY DUTY."

To use what gifts I have as best I may,
To help some weaker brother where I can,
To be as blameless at the close of day,
As when the duties of the day began.
To do without complaint what must be done,
To grant my rival all that may be just,
To win thru kindness all that may be won,
To fight with knightly valor when I must.

—S. E. Kiser.



MEN AND THINGS

President Harding's Biggest Job.—To the American who has been watching the course of events in Europe, and even more so to the American living or traveling abroad, the biggest job of the Harding administration would appear to be the adjustment of our foreign relations, the re-winning of Europe's lost faith in us. It is not only a big job and a delicate one, but a most necessary one. Things cannot remain as they are now. Persuaded on the one hand that we cannot enter into an alliance with Europe which would drag us into the inescapable intrigues of politically or commercially ambitious powers, on the other hand we cannot accept the distrust, the indifference and the contempt that are undisguisedly shown for the United States in several continental countries. Such an attitude is injurious to us morally, it is fatal to us commercially. And our task is an extremely delicate one for the special reason that the misunderstanding of us is due to no real ill will, a circumstance which makes the situation all the more difficult.

The metamorphosis of Europe's attitude toward America is unique. Before 1914, the general opinion abroad was that America was the land of the dollar, a country without ideals, the supreme materialistic nation. Then came the war and America's share in it. Europe saw this great nation throw itself into the struggle on what at the time appeared the losing side, stipulating nothing, exacting no bargains, entering into no contracts, its sole purpose to free Europe from the danger of a despotism such as had never menaced it before. And it went into the struggle with an ideal before it—however elusive matters not—the ideal of liberty. Europe altered its opinion of America completely. They recognized in us a nation young, idealistic,

willing to sacrifice itself for a principle. The name of America became abroad a synonym for unselfishness. Then came the end of the war, the victory of the Allies, the retirement of the United States, with a casualty list of 400,000 and a firm determination to accept none of the spoils of victory, in no way to profit by its participation in the war. It would appear that this gesture, unparalleled in history, a victor asking no reward for his costly triumph, would forever impress upon Europe the idealism and unselfishness of our country. The contrary was the result. During the war many of us consoled ourselves with the reflection that England and France were so closely knitted to us in friendship that no differences could ever arise sufficiently great to disturb our union. The end of the war saw England distrustful of us, France utterly disillusioned in regard to us. Why?

In the answer to this question lies the final, incontestable proof of the utter wrongness of war, whatever the extenuating circumstances. We terminated the war with the same principles with which we entered it; yet these principles hailed during hostilities as noble, ideal, inspired, were at the close of the war branded as selfish, narrow, visionless. And all this because the Allies, who were losing the war when these principles were first presented, won the war and preferred to apply the time-honored principle of "to the victor belongs the spoils." It is easy to find fault with this change of faith, but it must be remembered that the war had gone on so long and had proved so ruinous that it was impossible for the victor to maintain an attitude of unselfish idealism without incurring the risk of political and financial annihilation. The United States alone of all the nations had emerged from the war sufficiently unin-

jured to be able to maintain a consistent attitude of idealism. And this idealism was unacceptable to the nations that had paid heavily in their struggle. It was for this reason that the insistence of the United States on the application of the broad principles accepted during the war aroused resentment, impatience, and finally hostility in Europe. Thus Europe's best friend became her worst enemy—that is, as far as the big powers were concerned; for the little nations, who, tho they won the war, remained nevertheless at the mercy of their more powerful associates, still retained their faith in the United States and still looked to her as the sole arbiter whose decisions are controlled only by the considerations of justice. It is this continued and undisturbed faith in the idealism of the United States on the part of the small nations of Europe which is the finest proof of the utter unselfishness and rightness of the attitude of America toward Europe. But, unfortunately, it is the attitude of the larger nations which determines the attitude of Europe, and that is not all we should desire it to be.

President Harding's task, therefore, is a difficult one. But, tho the present administration has been in office only a short time, it begins to appear that it may discharge this responsibility in a most capable manner. Already there appears to be a slight change in the attitude of Europe. Harding's first step, his firmness toward Germany in the matter of indemnities and reparations, has made it clear to France and England that America has no intention to push its idealism to the point of absurdity, that it intends to see that contracts are fulfilled, that pledges are kept. And in time it may be possible to make Europe understand that America does not intend to rob the victor of his spoils, that its sole motive is, for once in history, to make defeat somewhat bearable, so that there may be no incentive to revenge and further wars and the inescapable suffering that war brings. The present tendency of Europe is toward a reestablishment of old political divisions, of balance of power, of two armed camps, with a clash between the two inevitable as soon as the weaker feels his power restored. The motive of America is to break down such divisions, to make clear the fact that

the interests of one nation are intimately wrapped up with the interests of every other nation. If that point can be made, if America's unselfish interest in establishing this point can be made clear, Europe's faith in her cousin across the water will be restored. That is President Harding's aim. And it is the hope of every American that his administration will not expire before this aim is fulfilled.

Property and Morality.—A negro in one of the Southern states has been branded with letters K. K. K., the emblem of the Ku Klux Klan. Report has it that he was found in a hotel in the room of a white woman. He was dragged from the room by a group of clausters and branded for life with the three letters. For once, a negro's life was spared and his punishment was made comparatively mild. But then the circumstances are somewhat exceptional. They are worth considering. There is nothing in the report to prove that the negro had forced his way into the white woman's room or that he had employed violence toward the woman. The instance is unmistakably that of a corrupt white woman, whose sole sin is her corrupt instincts, and that of a black man, whose sole sin is that he responded to this corruption. Details of the case indicate that, in all probability, the negro was in the white woman's room on her invitation. There is nothing in the report to show that the woman was in any way punished. The white man's revenge was spent entirely on the male member of the intrigue. The incident is commonplace enough, yet it carries with it a singular commentary on man's singular conception of morality. The Ku Klux Klan is the self-appointed guardian of the white man's honor against the black man's villainy. Let us suppose, for example, that the man in the woman's room were a white man. What would have been the attitude of the Klan in that case? Presumably, there would have been no interference on their part. The affair would have been regarded as strictly a family matter, the male members of the woman's family being left to determine their own attitude toward the offender. But the man in the case being

black, it at once became the concern of all white men to avenge themselves against this violation—of what? Of morality? Or of property?

Certainly not of morality. If it were, then the color or race of the offender would not have mattered in the least. The case is an interesting reflection on the general male attitude toward woman, despite woman's increased and acknowledged independence, as his personal property, property which has no right to dispose of itself freely. The woman in the case was guilty of a sin, not against morality, but against property. She was disposing of something which did not belong to her, and the man was punished as the recipient of stolen goods; hence the comparatively mild form which the punishment took. If the incident were not, at its root, one touching on really grave issues, it would be almost a temptation to treat it as a preeminently comical situation, exposing all the absurdity and grotesqueness of so-called male morality, but it is more prudent to leave comment to the imagination. It should be added, however, that the Klan did well in ignoring the woman. Her corruption was its own punishment. But they erred in conferring a mark of condemnation on the man which he is very likely to regard as a mark of distinction in view of the circumstances. It would have been much more far-sighted to let the inevitable course of events work out the punishment of both. But that would be expecting too much of male morality.

Royalty of the Right Sort.—It is quite the thing these days for kings and princes to wear an unaltered expression of worry on their royal countenances. Certainly the times are hardly favorable to the ruler who claims his privilege by divine right. And the Prince of Monaco, ruler of that charming little country on the French frontier, is no exception to the rule—as far as appearances are concerned, at any rate. An interviewer who called on him recently, on the eve of his leaving for the United States, found him very pale and grave. It was manifest that he was worried. But presently it became clear that he was not worry-

ing over questions of dynasty, of balance of power. He was not uneasy lest, during his absence, his throne might be seized by some usurper. He was plunged in deep reflection, but not the kind of reflection so common these days with royalty, throned or unthroned. He was struggling with a problem in oceanography, his sole passion, the problem why deep-sea creatures, who dwell far below the surface, usually come up to the top at night and return to the depths at night. And, while Emperor Charles was ruminating over his frustrated effort to regain the Hungarian throne; while Kaiser Wilhelm was sawing his ten thousandth log and perhaps dreaming of a return to the glory of Potsdam, this prince was confiding his deep concern to the interviewer, a concern that does honor to him as a ruler.

"We used to think," he said, "that these great creatures had special levels at which they always remained, but just before the war we were beginning to find that for some reason some of them come up to the surface at night and return to the depths at daylight. I have thought that the reason for this is that the sun perhaps contains rays—maybe violet rays—which are harmful to the life of these animals, and they go down during the day to escape them. But now that the war is over we may be able to learn the truth about them. * * * The war had the same depressing effect upon science that it had on all civilization. The money thrown away to kill people was so much lost to science."

Having delivered himself of this, the ruler of Monaco felt relieved. When he said "we," he did not mean we rulers, we kings, but we men of science. It was as a scientist that he received the interviewer, and it is as a scientist that he is coming to America. His visit is not to be one to encourage an alliance or to invite commerce. He is coming to Washington to be presented with the Alexander Agassiz medal for marine research work, the reward of his studies and discoveries. For once, the American Republic can welcome a foreign ruler without the feeling that it is violating any of its democratic principles. The Prince of Monaco is the right sort of royalty. Americans welcome him without reservation. If European royalty would, like the Prince, give more of their time to

science and less to politics, the world would be better off.

Teeth and Health.—Within the last decade our knowledge of the relation of the teeth to general bodily health has grown rapidly. As a consequence, bad teeth, and diseased conditions of the dental structures in general, have come to be recognized as factors of prime importance in the causation of not a few serious systemic ills. As with all progress, however, the tendency has been to go to extremes, and it would seem that the teeth, having been shown to be culpable in numerous instances, have been too hastily blamed and condemned for conditions in a great many others, which more careful investigation would have properly placed at the door of other causes. Hence it is that many a healthy tooth has been sacrificed without adequate reason.

Fortunately, the trend of thought in respect to holding the teeth responsible for the majority of the so-called toxic ailments, is in the direction of conservatism, and this, with the development of X-ray technic in the diagnosis of diseased teeth, has placed the whole matter on a much more sound and rational basis.

In this connection, the medical, as well as the dental profession, will heartily approve of the little book on "Teeth and Health," written by Thomas J. Ryan, D. D. S., and Edwin F. Bowers, M. D., and just published by G. P. Putnam's Sons. Here is a book that is obviously intended to arouse the intelligent laity to the dangers of neglecting the teeth, and yet it is strikingly free from exaggeration, or anything liable to create false or unwarranted alarm. It does point out the truth in regard to decayed teeth, and properly emphasizes the menace of allowing even the simplest, or apparently most insignificant dental infection, to go untreated. The dangers of poor or makeshift dentistry are pointed out, and especial warning given against "crown-work."

Drs. Ryan and Bowers should derive a great deal of satisfaction from this book, for they have done something distinctly worth while. We all know that many of our most intelligent people need to be informed concerning the essential harm that decayed and infected teeth are bound to do,

if not properly attended to at the earliest possible moment. It is because we feel, therefore, that Drs. Ryan and Bowers have rendered a real service to the practice of medicine as well as to that of dentistry, in giving accurate information on the relation of the teeth to general bodily health, that we unhesitatingly commend their excellent little book to the attention of our readers. It is to be regretted that more of the hygienic information supplied to the public does not have the sound, conservative character of that to be found in "Teeth and Health." Earnest, straightforward works of this nature, with gratifying freedom from sensational exaggeration, deserve our heartiest support, for they not only pave the way to the better practice of medicine, but they immeasurably increase the efficiency of every physician in his efforts to prevent disease.

Group Practice.—The growth of group practice is arousing a great deal of interest in medical circles, and it is apparent that a wide diversity of opinion exists as to the benefits that will accrue therefrom to the profession as well as to the public. Obviously, there is much to be said, pro and con. It is easy to see the numerous evils that may arise from the grouping of medical men who seek chiefly commercial gain to themselves, and equally easy to see the beneficial results that can come from the association in practice of physicians actuated by high professional ideals. As with every other human enterprise, everything depends on the type and character of the men who form these groups. One thing is certain, medical practice is confronted by grave dangers, and active steps must be taken, and soon, to meet the situation that has developed as a consequence of the decline of the general practitioner, the disappearance of the family physician. We mean no reflection on any one when we say that the growth of specialism has far from compensated us for the decrease of general practitioners. Specialism has indeed contributed much to medical progress, but it has brought evils that are largely responsible for the dangers that threaten medical practice today. At any rate, conditions must be corrected *within* the profession, or we will find ourselves attacked by waves of legisla-

tion from *without*, that can only mean the annihilation of professional ideals, the loss of scientific ambition and the complete degeneration of medicine and if group practice offers a solution of the problems before us, as many believe, let us give it every encouragement. But let us not be blind to the evil possibilities, and fight them with all our strength.

In the meantime, let us not lose sight of the importance of the general practitioner and the wisdom of doing all we can to encourage and promote the general practice of medicine. The following statement made by Dr. Frank Billings at a recent meeting of the Committee on Medical Education of the A. M. A. contains so much food for thought that we feel it a duty to print it:

"On the practitioner of medicine himself all reforms must be built if we are to make any headway in meeting the confusion and dissatisfaction that prevail in our own country. When I say practitioner, I mean the family physician, the one who made significant investigations in earlier days. He has not disappeared entirely. Occasionally one finds him in the country, rarely in the city. The training of the family physician in the old days was not equal to what it is today, yet he was a resourceful man. He met every emergency. He was the adviser of the family in all conditions relating to health, to morals, and to the education of the children in the family. He was a good therapist and depended on the use of a few simple drugs. Such men are born. The difficulties arising today are due primarily to specialism and to our medical colleges having gone wrong. The curriculum of the undergraduate medical school should be modified in order that we may again educate and have these resourceful men. When we can have such men, who are not looking for large fees in surgery or in any specialty, who will be attracted to other places than the large cities, it will be much better for the community.

Today our urban population is bigger than the country population. Every one is attracted to a city, including physicians. The competition and difficulties of living in a city are great. To meet the conditions of modern medicine, the country practitioner should be attracted to remain in a rural region, but not only should he have the facilities which he may need in modern

practice, but social conditions should be made better. Any well qualified practitioner of medicine can deal with 75 per cent. of his patients without any other means of practice than his brain, his special senses, his hands, and a few simple instruments which are always at hand. The people themselves should pay for the facilities of hospitals and other facilities for their own care. Therefore, any measure for the improvement of health, including treatment, must be carried on in the community and by the community itself, and not outside. We shall not succeed in anything unless it is for the public good, and what is for the public good will be for our good, for we are a part of the public."

A Tribute to the Doctor.—The following fine tribute to the practicing physician which appeared recently in the *New York Tribune* is particularly gratifying in view of the too common tendency to accuse medical men of mercenary habits. There are dollar-chasers in the practice of medicine as in all other callings, but they constitute a mighty small minority of the whole profession. There is no class on earth who do so much for their fellowmen without the expectation of remuneration as the doctors of this and other lands. There are plenty who know this and realize how little selfishness enters into the work of the great majority of physicians, especially medical men who are in general practice, but it is good to have them express it now and then, and in terms that have as sincere a note as the following from the *Tribune*:

"The alleged rapacity of doctors is one of the meanest of libels. It is contradicted by common knowledge and every-day experience. The physician who thinks first of his fee is a rarity. The young woman of Trenton who was ready to sell herself in marriage for \$1,000 to pay for an operation on her mother need only have gone to the nearest hospital and not a cent would have been asked. A Brooklyn doctor a few days ago got up from a sickbed to take a bullet from the brain of an insane prisoner. His fee was—nothing.

"From the time of Galen the medical profession has been the butt of the jesters. Most of the jokes are variants of 'The sur-

geon buries his mistakes.' Addison in *The Spectator*, thought it good humor to write: 'We may lay it down as a maxim that when a nation abounds in physicians it grows thin of people. . . . This body of men in our own country may be described like the British army in Cæsar's time. Some of them slay in chariots and some on foot. If the infantry do less execution than the charioteers it is because they cannot be carried so soon into all quarters of the town and dispatch so much business in so short a time.' Yet there were doubtless fifty doctors in London who would have given their days and nights to Addison, tho he hadn't a guinea to pay.

'It is only in modern letters that we find real appreciation of one of the noblest of professions—in the poems, for example, of William Ernest Henley, who knew what it meant to be In Hospital. It is good to feel that these lines from his sonnet 'The Chief' truly express a sentiment that is general today:

'If envy scout, if ignorance deny
His faultless patience, his unyielding will,
Beautiful gentleness and splendid skill,
Innumerable gratuities reply.'

"Doctors are no doubt lower than the angels, but in whose daily labor is there more of unselfish service to fellow human beings?"

Deaths Due to Accidents Among Children.—

According to a report of the Census Bureau, and quoted from by the *Journal of the A. M. A.*, accidents cause a larger portion of deaths under 14 than in any other period of life. According to the report, at least 20,000 children are killed in the United States by accidents each year. Out of every 1,000 children's deaths at the ages 5 to 9, 167 are due to accidents, and from 10 to 14, 177 out of each 1,000 deaths are due to accidental causes. This is a greater mortality than the combined mortality of measles, scarlet fever, whooping cough or diphtheria. In 1917, accidents caused 17.7 per cent. of all the deaths among children under 14, while epidemics were responsible for only 17 per cent. of the deaths among children of the same age. Altho tuberculosis is generally regarded as one of the leading causes of death in child-

hood, it caused only 8.5 per cent. of the deaths between the ages of 5 and 9, while accidents caused 16.7 per cent. In the age period from 10 to 14, tuberculosis caused 14.2 per cent. of the deaths, and accidents 17.7 per cent. The principal forms of accidents were burns, falls, automobile and other vehicular accidents, accidental drowning and poisoning. More than 4,500 children under 15 were killed by vehicular accidents in 1917. These figures, compiled from the 1917 Census Bureau Report, are published by the First Aid Bureau of the American Red Cross as justification for its campaign for the prevention of accidents. This campaign is being carried on, both by the education of the public in the use of safety appliances and methods for the prevention of accidents, and by instruction in first aid to the injured. The first aid courses have been introduced into many of the public schools, and there is a constantly increasing demand for them. Certainly all methods by which this heavy and largely avoidable toll of child life can be reduced should be encouraged.

The Boston Meeting of the American Medical Association.—

The annual meeting of the American Medical Association to be held in Boston, June 6th to 10th promises to be one of the largest in attendance in the history of the organization, if difficulty to obtain hotel accommodations a month ago is any index. Many matters of great interest to the medical profession are to be discussed, and if the session is no epoch-making in its influence on many questions of the utmost importance to the medical profession, we will be greatly surprised.

Every physician who possibly can, should go to Boston and obtain the inspiration these A. M. A. meetings always give to those who attend them. The American Medical Editors' Association also meets at Boston, June 6th and 7th, at the Hotel Lenox. Dr. H. S. Baketel is the president this year. A number of symposiums have been arranged on topics of vital interest to medical journalists, and one of the best meetings in recent years is confidently looked forward to. The medical man who does not join the pilgrimage to Boston for the week of June 6th to the 11th will lose much.



ORIGINAL ARTICLES

THE MODERN TREATMENT OF SYPHILIS.

BY

BURTON PETER THOM, M. D.,

Visiting Syphilologist to the Hospitals of the Department of Correction, Blackwells Island,
New York City.

There is practical unanimity in the therapeutic agents employed in the treatment of syphilis, but considerable diversity in their methods of application. Since syphilis is an infectious disease due, as we now know, to a specific organism—the *Treponema pallidum*—the object of treatment is to eliminate the infecting agent and thus allow the lesions caused thereby to heal. This may be completely accomplished or only partly so. If we completely eliminate the organisms causing the disease we can say that we have cured it; if we have only partly eliminated them we may say that we have cured the lesions for the time being, but we have *not* cured the disease.

From what has just been written, the inference can be drawn that I believe syphilis to be a curable disease. This will be disputed by some who believe with the late Hayes Agnew that he who contracts syphilis will have it all his life and his ghost will have it after he is dead; and again, to recall the words of the French syph-

ilologist, Fournier, who said, "Syphilis does not die; it only sleeps," I believe I am right when I say that syphilis is curable and I also believe that those who say that it is not are also right. Later, I will explain this seeming paradox.

Up to within the last thirty years the treatment of syphilis was almost entirely a question of the ingestion of pills and syrups containing mercury or potassium iodide. The patient who, for a period of three or four years, persisted in doing so and who at the end of that time did not show any of the signs of the disease was said to be cured. Since only about fifteen per cent. of all syphilitics ever show tertiary symptoms, it was quite possible for this assertion to go unchallenged. We now know that in by far the greater majority of cases a cure was not effected, and these patients carried their syphilis with them to the grave. Whether they carried it to the other world, as Agnew said, I will leave open. In the early nineties of the last cen-

tury, American physicians returning from the great venereal clinics of Paris, Berlin and Vienna introduced in this country the intramuscular injection of mercury. This method had been first employed by Scarenzio of Pavia, in 1860, but owing to imperfect technic, especially since it was carried out regardless of aseptic or antiseptic detail, it had fallen into merited disuse. But in the eighties, when surgical cleanliness had emerged from the experimental stage, it was taken up again largely thru the efforts of Balzer, of Germany, and soon became the method of choice for the introduction of mercury into the body in all of the continental clinics. When introduced into the United States, it was rapidly taken up by all progressive syphilologists. At first as an emergency measure, later as a routine method of treatment. The intramuscular injection of mercury undoubtedly marked a great advance in the treatment of syphilis, and there are those who believe that the reduction of tertiaries, at least in so far as cutaneous lesions are concerned, noted within the past generation, is in a measure due to its introduction. While not willing to concede this in its entirety, yet in a measure it is possibly true. The introduction of insoluble mercurial salts was the greatest advance in the treatment of syphilis since 1839, when Ricord introduced potassium iodide in the treatment of tertiary syphilis.

At the time of which I write, the influence of Fournier was at its zenith and the intermittent course of treatment advocated by him and many of the French school was followed here in giving the injections. From four to six injections at weekly intervals were given and then the patient received no treatment whatsoever for several months, when it was again re-

sumed. From four to six courses were given in most instances, then discontinued. A few followed the mercurial with a course of potassium iodide, many others, however, did not. Up to twenty years ago this was the method *par excellence* in the treatment of syphilis, altho the oral method still held its own among the older and more conservative. These still dosed their patients with protoiodid pills or granules, or with Ricord's pills, or Dupuytren's pills, or with Van Swieten's liquor, or Zittmann's decoction, or Sir Astley Cooper's tonic, or the "Rob" or with "mixed treatment." All these and more were used to eradicate the "virus" of the disease. Such was the state of our knowledge of syphilis at the beginning of the twentieth century, and in reading the text-books of the time it would seem that it could not be improved upon. But a change was coming. Workers unknown to many of the clinicians of the time were earnestly striving to solve the problems which they knew existed in syphilis.

In 1903, Metchnikoff and Roux succeeded in inoculating some of the higher apes with syphilis, thus proving that the disease was not exclusive in man. In 1905, Schaudinn and Hoffmann announced the discovery of the causative organism of syphilis—the *Treponema pallidum*. Two years later, Wassermann, Neisser and Bruck elaborated the serologic phenomena observed some years before by Bordet and Gengou, and placed at our command a diagnostic test of incomparable importance. In 1910, Ehrlich gave us salvarsan. From that time on the diagnosis and treatment of syphilis ceased to be empiric and became scientific.

Ehrlich sought to sterilize the body with what he termed *therapia sterilizans magna*.

—the great sterilizing medicine—whereby at a single dose the infecting organisms could be destroyed and all the tissues of the body rendered free from the infection. At first this was thought possible and the wondrous news was spread far and wide both in the medical and lay press. Soon, however, reports of relapses dispelled this happy illusion and while it was realized that an immense advance had been made in the treatment of the disease, it was also realized that such hopes were impossible of fulfillment. During this early, or what may be termed pioneer, period of salvarsan, it was given in many ways. Numerous books, mostly German, were written, describing the technic of administration of different professors and heads of clinics in Germany and Austria, and each operator it seemed felt compelled to administer the drug differently. With the simplified technic now in use it is difficult to understand the confusion and useless variations that then existed. As time went on, it was further realized that salvarsan alone in the doses and at the intervals given would not completely cure the disease, and recourse was had to mercury to assist this action. This is the method used practically by all syphilologists at the present, the only difference being in the intervals at which the salvarsan is given intravenously—for this was found to be the most efficacious means of introducing it into the body—and the method whereby the mercury is given—usually, I may say, the intramuscular injection of an insoluble salt, of these the salicylate being the most popular.

As we know, Ehrlich's original idea was to sterilize the tissues at a single dose. We also know that he fell short of his ideal; but I wish to say, that if he did not succeed, he at least came close to it. An inquiry

into the reasons for this non-sterilization of the body by the most direct method known, *i. e.*, thru the blood stream, will serve a purpose in coming to a proper understanding why it seemingly cannot be done.

That complete annihilation of the *Treponema pallidum* was not accomplished was explained by Ehrlich on the grounds that the remedy failed to reach certain parts inaccessible to the blood stream—the central nervous system in particular. Altho the so-called neurocidence symptoms, which began to be reported with increased frequency shortly after the introduction of salvarsan, were ample evidence that they were at least reached and the organisms lurking therein were stirred to increased activity because of the inadequacy of the dose. In other words, the disease was not cured by one dose because the remedy could not reach, or rather, reached certain inaccessible parts of the body only in such small amounts that the spirillocidal power of the body juices was inadequate to destroy completely the organisms so located.

Another fact that gradually became patent to some observers was that as the years went by the drug seemed to be less potent than when it was first introduced. From a superficial standpoint, this would seem to be due to the earlier product being of greater therapeutic strength than that manufactured later. This idea, I may say, is held by many at the present time. In my opinion, however, it is erroneous. I believe the lowered therapeutic potency of salvarsan today is because of the development of arsenic fast strains of *Treponema*. When we consider the vast number of injections that have been given and are constantly being given in all parts of the world, I see no reason why the *Treponema* of the

present are not more or less immunized to organic arsenic. I do not wish for an instant to infer that this immunity is such that the power of the drug is much impaired. It is not. But to some slight extent, at least, I believe this to be true, for arsenic fast strains of *Treponema* transmit this quality to those coming after them. This statement may be contested, but I believe the facts, as they are known to exist, in regard to the present therapeutic power of organic arsenic compounds warrant this belief.

The elimination of arsenic is mainly thru the kidneys and it is now known that it is not as toxic to these organs as mercury. It is also eliminated to a lesser extent thru the alimentary tract. This elimination is also much more rapid than was formerly supposed. We now know that an ordinary dose of salvarsan, that is, 0.6 gms., passes out of the system within eighteen hours. For that reason it became known that the drug could be administered at much shorter intervals than formerly obtained. In Germany and Austria a method of treatment was, therefore, developed which, because of the war, has only recently come to the attention of syphilologists in the United States. It is based upon the three following propositions: 1. Since the remedy could only reach inaccessible parts of the body in amounts insufficient to destroy the *Treponema* lurking there; 2. because of the lowered therapeutic power of drug due to the development of arsenic fast strains; and 3. since arsenic is so rapidly eliminated it is possible and rational because of the first two propositions, to give it at such frequent intervals that the organisms can be destroyed *in toto*. Such in brief is the intensive treatment as first advocated in this country by Politzer and which I have

used in approximately fifteen hundred cases, both in hospital and private practice, within the past fourteen months. I can vouch from an experience of nearly five thousand injections that it is as free from danger as when the drug is administered at much wider intervals, and I also desire to go on record as being convinced from personal experience that this method offers the best chance of sterilizing the body to the disease and thus accomplishing Ehrlich's ideal of sterilizing *en masse* since the introduction of organic arsenic in the treatment of syphilis.

In my capacity as visiting syphilologist to the Hospitals of the Department of Correction of New York City, which includes the hospitals attached to the workhouse for women and the penitentiary for men, on Blackwells Island, I follow the following routine. I might also add that in private practice I do not deviate from this.

All patients whose blood shows a positive Wassermann reaction are at once put in what is known as the "syphilitic squad" and are isolated from the other prisoners. Before treatment is begun, each patient undergoes a thoro physical examination. This includes the heart, lungs, urinalysis and palpation of the abdomen to determine if the liver is enlarged. The reflexes are also tested and if it is thought necessary an ophthalmoscopic examination is also made. If the patient is addicted to the use of drugs, treatment is postponed until two weeks after complete withdrawal of the drug. Strange as it may seem, in a service as large as this, comparatively few open lesions are encountered and the same is true of involvement of the nervous system. By far the largest majority of these patients, altho recruited as they are from the criminal classes of the greatest

city on the globe, show no symptoms of their disease except a positive Wassermann of the blood.

Monday, Tuesday and Wednesday are the days reserved for treatment. The evening previous, that is, Sunday, each prospective patient is given a saline. On the following morning the patient has a light breakfast and is not allowed to eat thereafter until five hours after the salvarsan is given, that is, five hours before and five hours after the injection the patient goes without food. Five minutes before the patient is placed on the table an intramuscular injection of 0.3 c. c. of adrenalin is given. This is to prevent the so-called nitritoid crisis or anaphylaxis, which, in a large and miscellaneous service such as this, is an ever-present possibility.

The dose of salvarsan is regulated entirely by the weight of the patient, altho 0.6 gm. is never exceeded. The proportion of salvarsan to the body weight is 0.1 gm. to 12 kilograms, *i. e.*, one and a half grains of salvarsan to every twenty-five pounds. In females, the proportion of the drug is slightly less—one and a half grains to every thirty pounds. For some time past I have been using neosalvarsan instead of old salvarsan and the dose per weight is, in consequence, one-third greater. I prefer the new salvarsan to the old for several reasons. It is quicker to prepare, and in a large service, time is an element that must be considered. Also, there is less reaction—the symptoms of diarrhea and vomiting which so often followed the older drug are less apt to be present. Doubly distilled water is used, and in passing I would say that doubly distilled water should be used always, as unpleasant reactions are then less liable to occur. My opinion is, based upon an extensive experience, that many

of the unpleasant after-effects of salvarsan administration are due to the water used rather than to the drug.

The patient receives three intravenous injections—the neosalvarsan being suspended in about 30 c. c. of water—an injection every day for three successive days. This constitutes a course and the patient is not treated again for a month, when the course is repeated as before. When several weeks have elapsed after the second course, intramuscular injections of mercury are given, which concludes the treatment.

In private practice, I follow a similar routine in so far as the salvarsan is concerned, except that the time between the courses of salvarsan is extended to six weeks in order to allow for a month's treatment with mercury. When the patient has had the three successive intravenous injections of salvarsan, a week is allowed to elapse and then I begin with a course of inunctions of mercury ointment or, if the patient's veins are sufficiently prominent, I gave a mercury salt—the bichloride or benzoate—intravenously for a month. The administration of mercury intravenously is simple. It is also, in my opinion, the most efficacious way in which this drug can be given. The procedure is the same as in giving salvarsan, only that no more than six c. c. of normal saline solution is used. A stock solution of bichloride or benzoate of mercury is prepared in the strength of 0.006 gm. of the mercury salt suspended in 0.6 c. c. of water, *i. e.*, $\frac{1}{10}$ gr. is suspended in x minims of water. This is added to the saline by means of a medicine dropper. One injection a day is given in gradually increasing doses until 0.2 gm. or one-third of a grain is given. I do not give a larger dose. Twenty such injections if the patient's veins will permit constitute

a course. If inunctions are given, thirty are sufficient. One each day for six days and then a rest of one day—the patient taking a bath. Before taking the bath the parts that have been inuncted should be rubbed with olive oil and then scrubbed with soap and water. By using the oil before the brush, the mercury is more easily removed.

If the patient presents himself in the primary stage, if possible the chancre should be excised. Not that this procedure will abort the syphilitic infection, but I am convinced that it will modify the future career of the disease if the treatment herein mentioned is immediately given. In fact, I have no hesitancy in saying that in the primary stage excision of the chancre and two such courses of salvarsan as I have outlined, with a course of mercury by inunction or intravenously, will cure the disease within the time it takes to give the treatment outlined. I make this statement advisedly because it has been my experience that cases so treated invariably show a negative Wassermann reaction which remains negative after repeated examinations. When the secondary stage is reached this result is not always possible, neither is it always possible in the tertiary stage. Yet if the disease is less than a year old and the central nervous system has not been invaded, as shown by lumbar puncture, it is still possible, altho the number of courses of salvarsan may have to be increased to three. I have seen cases in which thirty and more intravenous injections had been given at intervals of a week or several weeks or a month and which still showed a positive Wassermann, change to negative—and what is more, remain negative—after three intensive courses given in the manner just described. Ordinarily, these cases would

be considered “Wassermann fast” and the patient would be told that it was impossible to change his Wassermann reaction from positive to negative. While I admit there are undoubtedly cases of Wassermann fast syphilis, yet I am convinced that their number could be materially reduced by following the treatment I have outlined. It is in just such cases that the most gratifying results are achieved. As shown by Warthin, Wassermann fast syphilis is due to the presence of a treponemal focus existing in the cardiac musculature, the liver, spleen or cerebrospinal axis. Intensive treatment by bathing the tissues, as it were, with sufficient spirilloidal fluid to destroy the organisms entrenched—to employ a military term to describe a pathologic condition—in these remote fastnesses of the body is the only means whereby this can be accomplished and a stubborn positive Wassermann changed to a negative.

Thruout this communication I have mentioned salvarsan, but in so doing I am alluding to neosalvarsan only, which I prefer and invariably use both in hospital and private practice. As I have already said, it is easier to give and causes less reaction. Neosalvarsan is also advisable in cardiac conditions—and not a few old syphilitics are so afflicted—a heart perhaps with myocardial degeneration which can ill stand the comparatively large amount of fluid required for the administration of old salvarsan.

Salvarsan should never be given on a full stomach. Five hours should elapse after eating before giving it and a similar length of time subsequent thereto. If jaundice is present, as is seen in about two per cent. of secondary syphilitics, it should not be given until the icterus has entirely cleared up and then it should be given with

caution—in other words, *not* intensively. It should be preceded by inunctions and when these have been given, at least a month should elapse before the arsenical is given, so as to avoid renal complications which may follow.

There are three dangers in the use of salvarsan which, while remote, should always be considered. These are anaphylaxis, acute icterus and encephalitis hemorrhagica. Anyone who has seen a patient go into anaphylactic shock while salvarsan was being administered will not want to see it again. It is usually ushered in by the patient coughing and if at any time while salvarsan is being given the patient begins to cough, the injection must be stopped at once. Anaphylaxis comes on suddenly. Shortly after the premonitory coughing, the face becomes suffused and the patient begins to gasp for breath. The face swells, the lips turn blue, the tongue protrudes and froth may issue from the mouth. The breathing becomes stertorous and shallow, the pulse thready and weak. Vomiting may occur. The patient becomes unconscious and this unconsciousness may deepen into death.

I shall not attempt to discuss the cause of this condition. As Milian contends, it is probably due to adrenalin insufficiency, which in some way is still further depressed by the administration of the drug. It is to prevent this accident that adrenalin is given previous to giving salvarsan. Should anaphylaxis supervene in the course of salvarsan administration, adrenalin should be injected intramuscularly in heroic doses. Its action is augmented by atropine, which should also be injected.

Symptoms of acute icterus sometimes follow the injection of salvarsan. It is probably due to an irritation of the hepatic cells

in those susceptible thereto or to an increased irritation of cells already injured by the infection. For that reason, if the patient complains of tenderness over the hepatic region or if jaundice is present, salvarsan should be preceded by mercury and under no circumstances given until the liver symptoms have completely cleared up. It has been stated that those patients who develop jaundice complain of "tasting" the salvarsan while it is being injected. I have frequently heard patients speak of the "taste" of the salvarsan while it was being injected, but I have never observed that any of them developed icterus. The treatment of this condition is by cold enemata and by injections of intramine—one or two c. c.—intramuscularly every few days.

Encephalitis hemorrhagica is another sequela of salvarsan. It nearly always follows a salvarsan injection that has been preceded by prolonged or intensive mercurial treatment. It presents as an acute uremia. This is perfectly logical if we remember that mercury has a selective action on the kidneys, which action is that of a nephrosis rather than a nephritis—a degeneration of the renal cells rather than an inflammation of the same. The patient usually does not complain until several days after the injection of salvarsan and the first symptoms experienced are malaise and headache, which rapidly become intense. There is vomiting, which may be projectile. Anuria is present. Convulsions occur and coma which deepens to end in death.

Treatment is unsatisfactory; nearly all of these cases die. Hot rectal irrigations to stimulate the kidneys, or hot poultices of digitalis leaves in flaxseed, may be applied over the loins. Venesection or intravenous injections of sodium bicarbonate may be tried.

These are the dangers of salvarsan. It is true they are very remote, yet they can and do occur and, therefore, must enter into our calculations if ever so slightly.

The intensive treatment of syphilis such as I have outlined is, in my opinion, the treatment that gives the best results not only in causing the symptoms of the disease to disappear, but in keeping them in abeyance for an indefinite time and which, more often than not, offers the best chance for attaining a definite cure, by which I mean the changing of a positive Wassermann reaction to a negative that remains so constantly. Giving salvarsan once a week or once in ten days will *not* cure syphilis except in comparatively few instances. Unless treated intensively, I desire to go on record as saying that syphilis is, in the vast majority of cases, an incurable disease in so far as rendering a positive Wassermann negative, which, after all, is the only criterion of *cure* we have.

1632 Avenue A.

Cataract.—The treatment of incipient cataract by radium, Rodenbaugh (*Cal. State Jour. of Med.*, Apr., 1921) says, offers the most striking results of any method yet used to check and absorb the progress of lenticular opacities. In over 80 per cent. of cases there has been a marked improvement. Excellent results have also been obtained in vernal catarrh and trachoma.

Madame Curie was received in the White House by President and Mrs. Harding on May 20, where she was presented with the gram of radium in behalf of American women who have contributed funds for its purchase. Before Madame Curie went to Washington she was greeted by the University Women of America in Carnegie Hall, New York.

COMPOUND FRACTURE OF THE FEMUR TREATED BY INTRA-MEDULLARY SPLINT— END RESULT.

BY

HOWARD LILIENTHAL, M. D., F. A. C. S.,
New York City.

The following case is interesting on account of the unusual method which was employed in operating for the perfect reduction of fracture of the femur and the brilliant result. The method is not to be recommended as a usual procedure because of the difficulties which may arise if infection



FIG. 1. Elsberg intramedullary aluminum splint.

should take place. I have since discarded it except in certain extraordinary cases. Placing a foreign body in the medullary canal of a large bone is theoretically sound, but in practice it is rarely wise. The present case, therefore, is reported as a surgical curiosity and also to show the excellent result after eleven years.

J. N., 10 years old, fell from a wagon on October 12, 1910, and entered Bellevue Hospital on the same day with an open

fracture of the left femur above the junction of the lower and middle thirds of the bone.

His temperature was 102. Nine days later it had dropped to normal. Extension had failed to bring the fragments into alignment and more than an inch of overlapping had been shown in the X-ray.

In those days I was enthusiastic on the subject of the Elsberg intra-medullary aluminum splint. This consists of a sheet of the metal about one millimeter—more or

tion it lies within the marrow cavity of the bone with the fracture as near as possible to the middle part of the splint.

Two weeks after this boy's injury I operated under general anesthesia. A four inch incision parallel with the long axis of the bone was made antero-externally over the location of the fracture and after exposing the ends of the bone thru the newly formed callus the upper fragment was delivered into the wound. An inch of this fragment was removed with the Gigli saw and a sharp

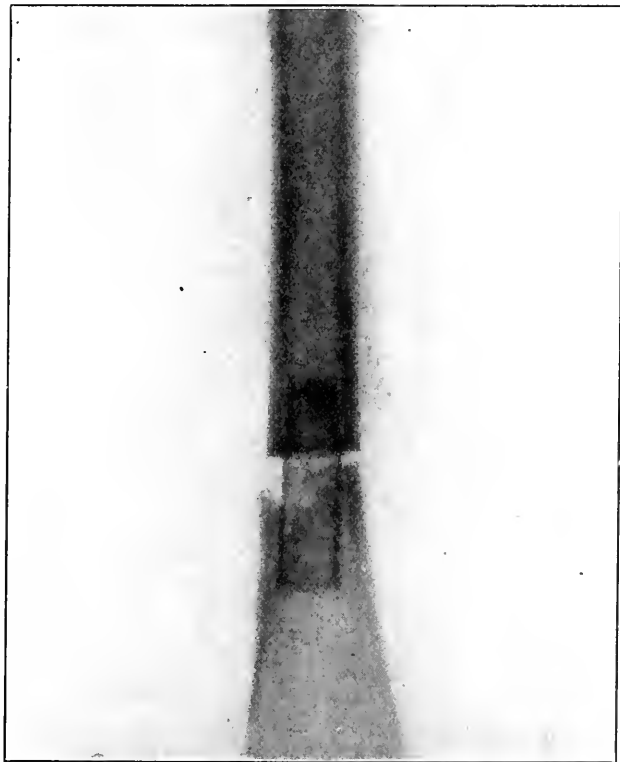


FIG. 2. Early result showing splint in position.

less—in thickness with a number of circular perforations for drainage and rolled into the form of a cylinder, the edges not quite in apposition (see Fig. 1); the length is varied to suit the case. This aluminum cylinder is placed in the medullary cavity of one of the ends of bone, the fracture being strongly angulated. The position is then slowly corrected while the protruding end of the splint is fitted into the other medullary canal so that when it is in posi-

tion the lower fragment was cut away with forceps. The marrow was then curetted for an inch in either direction. An intra-medullary Elsberg splint was then snugly fitted into the two ends and the wound closed by suture. The space between the ends, after the insertion of the splint, was one-half inch. A dry dressing was applied and the extremity was fixed with a posterior splint.

On November 2nd, a week after the

operation, a plaster spica was applied and the X-ray soon after showed perfect alignment.

The first dressing was done on November 22nd and the wound was found completely healed. Molded splints were then applied.

A month after the operation there was a space between the ends of the fragments not firmly bridged with callus. On December 5th the note is made that altho the knee

showed the position of the fragments practically perfect.

There is some lateral thickening at the site of the fracture. The function is unimpeded but the left thigh is a little smaller than the right and its musculature is not as well developed.

52 East 82nd Street.



FIG. 3. X-ray in 1919, 10 years after operation. This is an antero-posterior view showing the splint still in position. Bone solid with slight lateral thickening.

could be completely flexed by passive motion, the patient would not move it thru more than 60 degrees.

On December 31st, J. N. was discharged entirely well without any support and he walked with a very slight limp. He has remained well up to the present time and in 1919, nine years after his injury, the X-ray

THE MALE CLIMACTERIC.¹

BY

I. L. NASCHER, M. D.,

New York City.

So little is known about the male climacteric and so scanty is its literature that it is rarely recognized and discomforts and diseases arising from it are almost always ascribed to other causes. The male climacteric is analogous to the female menopause, occurring about the same time of life or a little later, with the most noticeable changes in the sexual organs and functions, and other changes, mental, temperamental and physical, similar to but not as marked as those that occur during the menopause.

In the vast majority of cases the symptoms and signs of the male climacteric are so mild and proceed so gradually that no attention is paid to them. When they do produce discomfort and are brought to the attention of the physician they are usually ascribed to the process of ageing, to excesses or to other causes not at all connected with the climacteric. The changes in the sexual organs and functions are the most pronounced of all the changes due to the climacteric, altho other changes, purely senile, generally appear about the same time and may be more readily recognized. There is a theoretical and in a few cases an actual

¹ Read before the Eastern Medical Society of New York, March 11, 1921.

periodicity in the functional activity of the male sexual organs. A periodicity in functional activity in the female, similar to the period of heat in the lower animals, has long been recognized. In the male this periodic functional activity is made manifest by an involuntary discharge of the contents of the seminal vesicles when these

occurs at fairly regular intervals. In others there is no periodicity, the discharge occurring during sexual congress, when the organs are subjected to irritation or occasionally thru psychic stimulation alone.

About the end of the fifth, or beginning of the sixth decade, men usually notice a weakening of virility, a lessening of the

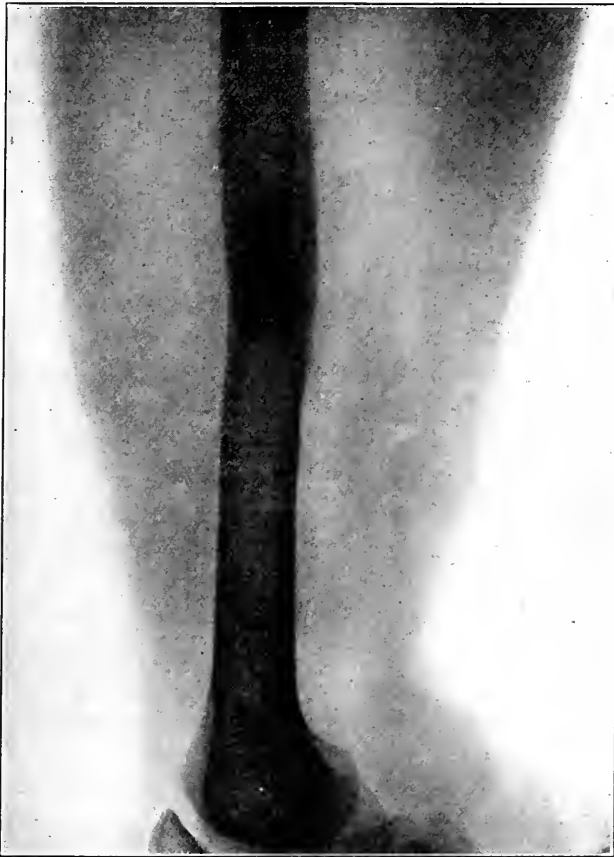


FIG. 4. Same as Fig 3, but lateral view.
(See preceding article.)

vesicles become filled normally without psychic excitation or local irritation. This occurs in the idiot, the temperamentally frigid individual and the one who abstains entirely from sexual intercourse and perversions. In these individuals the discharge of the contents of the filled vesicles

libido and the potentia. In the few cases of celibates in which I was able to get a history about this time, the intervals between the discharges became prolonged, the amount of semen discharge was diminished and where there were pleasurable sensations or feelings of repugnance during or

after the discharge these gave way to indifference.

Ordinarily the desire and power wane together in the healthy individual, but they never disappear entirely and permanently during the climacteric. There is usually a decided alteration in temperament during this time, the man's attitude toward women changes and the natural desire for sexual companionship is lessened.

The psychic stimuli of the libido, the imagination, visual impressions and physical contact such as occurs in the kiss, and the physical stimuli, the irritation occasioned by filled seminal vesicles, and local irritation as in masturbation, do not elicit the same mental response in desire nor the secondary physical response in erection and orgasm as in earlier life. A much longer time is required before an orgasm can be secured and the exertion often becomes so exhausting that men will rather suppress the desire than undergo the physical effort that the complete gratification of desire entails.

While the individual recognizes the waning sexual desire and power, he usually ascribes it to ageing and as this condition causes no special discomfort he does not complain about it. In some cases the libido remains strong, while the potentia is weakened. This occurs mostly in men of strongly erotic dispositions who have not restrained themselves in earlier life, and the reaction during the climacteric after years of physical excesses remains permanent. In these cases, there is a rapid weakening, which may proceed to complete impotence. (It should be understood that impotence refers to the loss of erectile power and not to spermatoc defect causing sterility.) A rapid weakening ending in complete loss of erectile power occurs also in persistent masturbation during the male climacteric.

During the climacteric there is usually an atrophy of the seminal vesicles, the amount of semen is diminished and in celibates there are much longer intervals between the involuntary discharges. In persistent masturbation and the class in whom the libido remains active while the potentia disappears, there may be complete loss of semen, but under strong psychic influence or local irritation there will be a slight prostatic discharge which the individual mistakes for semen. This individual is, however, both impotent and sterile.

In some cases the libido is lost during the climacteric, but the potentia remains. These are mostly cases of naturally frigid men who were indifferent to the usual sexual act and who were satisfied with occasional congress, masturbation or involuntary discharge.

While in the vast majority of men the desire precedes the erection, there is sometimes an erection without conscious desire, or the desire is aroused when the erection occurs. These cases seldom reach the physician, but the man who has erections without desire frequently resorts to masturbation for relief and many of these cases develop hypertrophied prostate. In almost every case of hypertrophy of the prostate a history of masturbation can be elicited, or evidence of masturbation, *i. e.*, the elongation and weakening of the cremaster muscles, can be found. So general is this evidence of masturbation in cases of hypertrophied prostate that I am satisfied that the prostatic condition is almost always due to late masturbation. It is the only rational explanation for the abnormal hypertrophy of a gland at a period of life when all other glands atrophy.

The only sexual condition which is likely

to reach the physician during the male climacteric is impotence with continued libido. It is not a difficult condition to treat, tho almost impossible to cure.

The erectile power can be temporarily stimulated thru stimulation of the spinal centers by electricity or drugs, notably yohimbe, coca and phosphorus. The cold steel sound will temporarily produce depression followed by stimulation. The most effective measure is diathermia, the high-frequency current applied to the organ itself producing turgescence and erection. I have used this remedy for several years not only during the male climacteric, but much later in life. These therapeutic measures are, however, only of temporary effectiveness, their action disappearing soon after each dose or application. While the action lasts the potentia is increased and the patient is satisfied with the result of the treatment, but within a few hours the erectile power is lost again and the patient is disappointed and dissatisfied. In such cases I generally adopt two lines of treatment, the object of the first being the suppression of the libido, of the other, the temporary stimulation of the potentia.

The bromides and monobromated camphor will generally be effective in suppressing the libido.

The mental and temperamental changes during the male climacteric are similar to, but usually not as marked as the like changes that occur in the female during the menopause.

In some cases very pronounced temperamental changes occur, but these are rarely attributed to the climacterium. Attacks of depression, irritability, impatience, sensitiveness, occasional exaltation and megalomania, a changed attitude toward females and children, toward family and friends,

toward social and economic conditions and problems, occur often and are ascribed to business or family troubles or minor ailments. Such minor ailments are exaggerated and the individual demands excessive sympathy and care. These ailments and other supposed causes for the temperamental changes are often the direct or secondary results of the climacteric, made more pronounced by the greater sensitiveness of the individual, while business and family troubles often arise from the temperamental changes.

The recognition of diminished virility has a very depressing effect upon most men. This depression is accompanied by shyness and a fear that this impairment may be recognized by others, and where there is complete loss of erectile power this may become a dominating obsession. The mental changes, other than emotional and temperamental, include impaired memory and attention, the latter causing weakened impression upon the sight and hearing centers, diminishing the receptivity and retention of ideas based upon such impressions. In old age the mental impairment is of a different character. While the memory and attention are weakened in old age, the memory of early events is restored. The old man will talk of events of his childhood and youth, recall trivial incidents which had probably been encrypted for years, while important events of later life will be forgotten. The recollection of early events occurs often spontaneously without effort or intent and they appear as vividly as tho they had just occurred. This does not happen in the mental impairment during the climacteric. It seems to me that the impairment of memory during the climacteric is not a primary condition, but is due to diminished attention, the individual being more con-

cerned about his subjective sensations than about objective impressions. Man is in his most perfect condition at the end of the period of development, about the thirtieth year. Soon after this he begins to retrograde. Long before anything definite was known about basal metabolism it was shown that at forty the pulmonary functions were not as active as at thirty, that the average weight of the brain was less at forty than at thirty, and that if there was any change in the heart, it was a compensatory increase in the thickness of the walls and not a general increase in the organ.

In the following decade, between forty and fifty, most men begin to notice the functional diminution due to the progressive degenerative changes. The individual feels that he is not as strong as he was a few years before, he is less active and spry, fatigue sets in more rapidly and a little extra exertion causes palpitation of the heart and shortness of breath.

The man knows that these changes are due to age, but he finds it difficult to resign himself to the inevitable and wilfully deceives himself. He ascribes the suffering of the joints to rheumatism, shortness of breath to asthma, that tired feeling in the afternoon to malaria and evidences of ageing to other diseases. These are the ailments that the man usually complains of during the climacteric.

Some men can view these changes in themselves philosophically, even optimistically, but to most men they indicate the passing from middle age to old age and they become depressed, this depression affecting their reason and judgment as well as their attention.

It is not possible to say how far the normal degenerative changes are influenced by the climacteric or what changes are insti-

tuted during this period. It is probable that the only degenerative changes beginning during the male climacteric, and due to it, are in the generative organs, altho diminution in sexual activity generally occurs many years earlier. This, however, can be ascribed to more stable emotions and to the greater control over the emotions after the period of youth has passed. Owing to the usual mental depression during the climacteric, the individual becomes more sensitive and he notices and exaggerates the discomforts caused by the degenerative changes.

Some of these changes now give demonstrable signs as increased blood pressure due to arterial degeneration, diminished body temperature due to diminished metabolism following lessened activity, and the minor signs of anosmia, presbycusis and presbyopia. These are, however, purely senile changes; they are gradual and progressive and some, like anosmia and presbycusis, may proceed to complete extinction of function. The changes that can be ascribed to the climacteric may be progressive, but they proceed rapidly during this period and after this period is past they are quiescent or progress very slowly.

A celibate informed me that he had a nocturnal emission about every three weeks until his 46th year. Thereafter the emissions came at irregular but ever-increasing intervals for about two years, when they appeared every two months. Now, at the age of sixty, there is an emission every three months or less—five in 1920. A patient declared that before his 45th year there were few days from the time he was 21, when he did not have sexual intercourse. Soon after he was 45, the tragedy of his life occurred, a long sought opportunity arrived and he found that he was

becoming impotent. In less than six months the impotence was complete. This preyed upon his mind continually until it became a dominating obsession. He neglected his business and his family, blaming his partners for his business reverses and his family for their impatience with him. He was treated for neurasthenia and impotence for about three months without any apparent benefit. Then there occurred a rapid improvement in his mental condition and a slight return of sexual power. This was really the end of the climacteric, but the physician accepted the patient's belief, and probably himself believed, that the improvement was the result of treatment.

A prosperous merchant who left the cares of shop behind him the moment he left his office gradually developed, in the course of years, fixed habits. They could set the clock by the time of his arrival at and departure from his office, home or club. Shortly before his 50th year his associates noticed a change in his behavior. He became pessimistic, irritable, brusque and harsh to his employees and often absent-minded, muttering to himself and shaking his head.

He refused to see his physician, claiming that he did not feel ill, but the physician was appraised of his condition and made a friendly call upon him. His wife told the physician that she could not account for the change in her husband, but stated that while he had never been of a marked erotic disposition, lately he had become entirely impotent and resorted to occasional masturbation. He was induced to take a short vacation, but he suspected that his associates were trying to force him out of business and he came back from his trip worse and more erratic in temper than before. He refused to submit to treatment

or take medicines and the family was considering the advisability of sending him to a sanitarium. His condition, however, improved and he began to realize that he had not been himself for several months. He took another vacation, this time voluntarily, and returned completely restored. His wife says he rarely expresses the desire for sexual congress and has given up the practice of masturbation. These cases illustrate the vagaries of the male climacteric. While degenerative changes occur during this period it is not possible to say which originate during this period, which are due to the climacteric and to what extent the climacteric influences the degenerative processes already at work. In many cases the senile changes begin during this time. Blanching or falling out of the hair, presbycusis and presbyopia, adiposity or its converse, leanness, often begin during the climacteric. The senile changes are slowly progressive; the climacteric changes occur rapidly and only during the climacteric, but they may continue slowly thereafter as senile changes. The only changes of this character that have been studied are in the sexual organs. So little study has, however, been given to this subject that its recognition and further research may bring to light other changes which now are ascribed to other pathologic processes or to ageing.

Finish each day and be done with it. You have done what you could. Some blunders and absurdities no doubt crept in; forget them as soon as you can. Tomorrow is a new day; begin it well and serenely, and with too high a spirit to be cumbered with your old nonsense. This day is all that is good and fair. It is too dear, with its hopes and invitations, to waste a moment on the yesterdays.—*Emerson*.

A MODERN METHOD OF COLONIC DRAINAGE.

BY

N. PHILIP NORMAN, M. D.,
New York City.

We are told by evolutionists that the erect posture of man is of a comparatively recent development and because of this change of postural habit certain physiologic functions have been complicated in mechanical performance.

The colon as well as the small intestines have suffered perhaps more than the other body structures in their evolutionary adaptation to the new intra-abdominal environment created by this postural change from quadruped to biped.

Therefore, it becomes logical to assume that intestinal function is normal only when they perform their work in a horizontal plane. In the human, the natural plane of performance has been altered to the extent that the intestinal contents have to be forced upwards before beginning the horizontal plane of travel in the normally placed transverse colon. In a great many instances the transverse colon has ptosed to a considerable degree forming a V or U-like flexure which in turn creates a more acute angle of flexure at the hepatic and splenic flexures, all of which further complicates the adjustment of intestinal excretory function to postural and mechanical defects.

It is a conceded fact by the majority of medical men that a great proportion of chronic human ailments are traceable to infections of the digestive tract, from the mouth to the anus, inclusive.

A new born babe comes into the world with a sterile digestive tract. After a few days his digestive tract is filled with bacteria, which enter chiefly thru the mouth

and thru the anus. There are two processes carried on by bacteria in the baby's colon, namely, putrefaction and fermentation. As long as lactic acid fermentation, which chiefly is carried on by the bacillus acidophilus, maintains a restraint on the harmful activities of the putrefactive and butyric acid forming bacteria, the individual keeps in good health.

However, this chemical balance is soon lost. In other words, the processes of putrefaction, which are carried on by pathogenic bacteria, soon destroy the lactic acid-forming bacteria and the individual begins to prematurely age and to manifest functional and structural changes characteristic of a host of chronic diseases.

Why does the normal fermentative-putrefactive balance become lost? There are many reasons; I shall enumerate a few. First of all the lack of oral hygiene usually starts the fire burning. A set of teeth full of food, produces over-night enough bacteria and bacterial toxins to kill us, were it not for the fact that our body manufactures anti-toxins to neutralize the effects of these toxins. These bacteria and toxins are swallowed thru the night and in the morning on awakening. The nasal passages, the respiratory passages, the tonsillar tissues and the teeth are constantly contending with these germs and their products and, in a great many instances, succumb to the attacks and themselves become foci of infection. Bacteria are constantly being swallowed and infest the digestive tract thruout which creates "indigestion," flatulency, constipation, etc. The gall-bladder may become infected and Lyon and others have shown that infection of this organ can seriously cripple the individual. The recent researches of Cotton, Draper and Lynch have proved that bacteria pass thru the intes-

tinal walls and invade the lymphatics, from thence entering directly into the circulation to produce the insidious effect of sapping the health, yes, the life of the individual away.

Overeating, especially of meats, fish and eggs, which are highly putrescible proteins, also creates a great deal of trouble as they are food products that leave a heavy digestive residue which favors the growth of harmful bacteria.

Thus, it becomes apparent that there is first an invasion of bacteria thruout the digestive tract and then the overeating of excessively putrefiable foods which form a vicious process inimical to good health. Otherwise stated, there is a lack of starches, dextrines and sugars in the digestive residue which causes a starvation of the helpful or acid-forming bacteria.

Metchnikoff came to the conclusion that the colon was a useless remnant of a formerly useful anatomical structure and that old age, so to speak, owed its premature inception to bacterial processes in this archaic anatomical remnant.

Lane about this time also began arguing that the colon was useless and harmful and devised and advocated a short-circuiting operation by which the intestinal contents were made to pass from the small intestine to the lower portion of the large bowel directly.

Metchnikoff and Lane were right in attributing a multitude of chronic ailments to the absorption of putrefactive products and bacterial toxins from the colon, and they, as pioneers, deserve much credit for the courage of their convictions, even tho we do not now agree with their suggestion of removing the colon.

Lane's efforts have been sadly disappointing, and he unquestionably harmed

more than he has helped.

Metchnikoff drew inverse conclusions. Instead of the colon being a useless organ, we find on more logical research that there are other factors which have put it at fault and have rendered it apparently useless. The organization of the great intestine is correct and it occupies a very definite rôle in metabolic activity. The great fault lies chiefly in that our modern dietary sets a task for the large intestine which it is not adapted to perform.

In civilized communities the colon has to manipulate a dietary such as was never before prescribed to it in any stage of its long evolutionary history.

Using a crude simile to illustrate what is meant by the foregoing, we will suppose that the motor of a car may not be running right. This does not necessarily imply that the mechanism of the motor is wrong or that some part of the motor is unnecessary for its proper functioning. On examination, one may find that the fuel supply for the motor is not adjusted to the needs of this particular motor and by simply changing the fuel or altering the way in which it is used, the motor will begin to run in a very satisfactory way.

So it is with the colon. It is not useless or unnecessary. The fault is not the colon's but with the fuel which we insist upon cramming into its confines.

Because of *infection* and improper diet, a condition known as intestinal stasis is produced. When this occurs there is an overloading of the colon with food residue of a perishable character, a stretching of the intestinal wall, due to gases and food residue bulk, a lack of tone in the muscles of the intestine, a sagging of the gut, a kinking (which Lane thought caused the stasis but which really is the result of in-

fection), a damaging of the ileo-cecal valve (which allows colonic fecal contents to pass into the small intestine), a diseasing of the appendix and ulcerations of the intestinal walls which allows a direct absorption of putrefactive ptomaines and the passage of harmful bacteria and their products thru the walls of the intestine into the abdominal cavity or into the lymphatics, and from thence directly into the circulation or directly into the blood stream thru the diseased intestinal mucosa. In addition to all this, one may add as a painful after-thought such conditions as hemorrhoids, fistulas, prolapsus, etc., which are secondary to colonic infections.

As a result of intestinal infection, any disease or combination of diseases may be produced. Therefore, in those in which the colon has "gone wrong," in which it serves as a hot-house for bacterial growth and a chemical laboratory for the production of noxious poisons, what can be done to reform this organ, to restore to biologic rectitude its functions which are now a menace to the body of which it is a constituent unit?

For many years I gave this constant thought and, after much observation, came to the conclusion that the way to do this was to change the character of the intestinal flora so as to eradicate the bowel-infection and to overcome stasis by removing the mechanical obstacles of colonic activity without the aid of the surgeon, except in those extreme cases where nothing but surgical measures will be able to correct the deformity.

The treatment which I am about to describe to you is given to the patient for a rapid de-infection, detoxication and for changing the chemistry of the processes in the colon. I have found a number of

things, that I shall try to enumerate, which materially aid in this process of detoxication and in establishing a new metabolic balance in the colon. *First*, a clean mouth; *second*, tonsil hygiene; *third*, nasal hygiene; *fourth*, a diet especially low in putrescible proteid content and relatively high in the starches with a profusion of vegetables and fruits, as well as the sugars of the lactose variety; *fifth*, no laxatives containing cascara sagrada; *sixth*, no alcohol in any form; *seventh*, plenty of exercise; *eighth*, the oral ingestion of bacillus acidophilus; and *ninth*, symptomatic medication; *tenth*, autogenous vaccines.

After the patient agrees to abide by these instructions, the treatment is commenced, the technic of which is as follows: The patient is placed on his left side. A colon tube three feet long and about three-quarters of an inch in diameter is inserted past the sphincters. Then your control valve is thrown open in such a manner so that the water from the reservoir is allowed to flow thru the colon tube into the patient's colon. While the water is flowing the tube is slowly passed. As soon as the patient complains of being uncomfortable, the valve is turned so that the water from the reservoir is cut off but allows the syphoning of the water from within the colon into a waste jar. After doing this, the water is again turned on so that it flows into the colon and we attempt to pass the colon tube as the water is flowing to a point further up the colon.

As a matter of fact, the first irrigation (drainage) is really an exploratory trip up the colon. On this trip we must be careful not to set up an active peristalsis of the bowel and for this reason we use water at 36 C. Never force your tube, but balloon the intestine with water pressure so that the tube will go thru without scratching. I

you have been fortunate enough to have reached the splenic flexure with your tube, then increase the temperature of your water to 50 C. But there are very few cases where you reach the splenic flexure on your first trip, unless the colon is in its normal position. On your way around you will probably find the colon so distorted and full of feces and kinks, that you may not be able to get beyond the sigmoid. There you may find that you have a very sharp kink. If this be the case you will give your patient a great deal of pain when dilating with your water. If so, stop right there—do not attempt to reach the splenic flexure on this trip.

Here is where water pressure will be of great value. Don't give too much pain. However, attempt to straighten out the kink or to raise the distorted gut by your pressure.

You may get through into the descending colon, and it may be that in attempting to go thru the splenic flexure one may have trouble. If so, turn the patient over on his back, or on his right side. Keep account of the water passed into the transverse colon, and be careful not to cause too much pain. If there is a quantity of solution in the transverse colon, and one cannot go further with the tube, syphon the solution out and allow a quart of water at 50 C. to slowly pass into the transverse colon, then remove the tube and allow the patient to expel the water. Water at this temperature is very effective in destroying bacteria and parasites; in fact, almost as much so as the ordinary antiseptic solution which one may use. The irrigations are kept up daily until the colon has been completely drained of its fecal contents. By this time, unless there is a great deal of distortion, the transverse colon should have been reached. After this

is accomplished, which usually takes from eight to twelve days, we are ready for our implant. The implant is made after the length of the colon has been irrigated with a solution of agar-agar and lactose which, so to speak, are the culture media for the germs which we are about to introduce thru-out the colon. This germ is the bacillus acidophilus which lives normally in the intestine.

The most natural thing for the colon to do, after being drained of its infection and infected contents, is to return to its normal anatomical position and to its natural size. This only happens after repeated drainages and after the implants have taken hold and de-infected your entire colonic tract.

In extreme cases of toxemia, it is common to get mental and physical depression from the lack of the stimulation of ptomaines and other poisons which have been rapidly removed. However, soon an improvement comes about, and in many instances, the physical and mental condition is so marked that we are justified in believing that a radical metabolic change has been brought about by this method.

265 West 72nd Street.

Aural Complications from Mumps.—

Albright, in the *Iowa State Medical Journal* (February, 1921), speaks of aural complications of acute epidemic parotitis and concludes his article as follows:

1. Deafness, unilateral or bilateral, may occur as a sequel to mumps. This is usually sudden, profound and persistent.

2. The site of the lesion is probably in the labyrinth. In nature it is probably a serous or hemorrhagic exudative affair.

3. More opportunity for study is needed by the aurists.

4. Treatment except preventive is probably without any particular value.

PERINEAL EXCISION OF THE RECTUM.

BY

CHARLES J. DRUECK, M. D.,
Chicago, Ill.

Professor of Rectal Diseases, Post-Graduate
Medical School and Hospital; Rectal
Surgeon to People's Hospital.

The Perineal Operation.—The mortality from extirpation of the rectum by a perineal operation is much lower than by any other method, but this type of operation is limited

the fecal discharges passing over the suture line. This latter danger may be avoided by providing the abdominal anus.

Technic.—The anesthetized patient is placed in the exaggerated lithotomy position; the hips well raised on sand bags, the rectum is well washed out with full strength solution of hydrogen peroxide, followed by full strength alcohol and then plugged with gauze. Plugging the rectum protects against leakage and facilitates its recognition during the later dissection. Whenever possible it is well to block the sympathetic

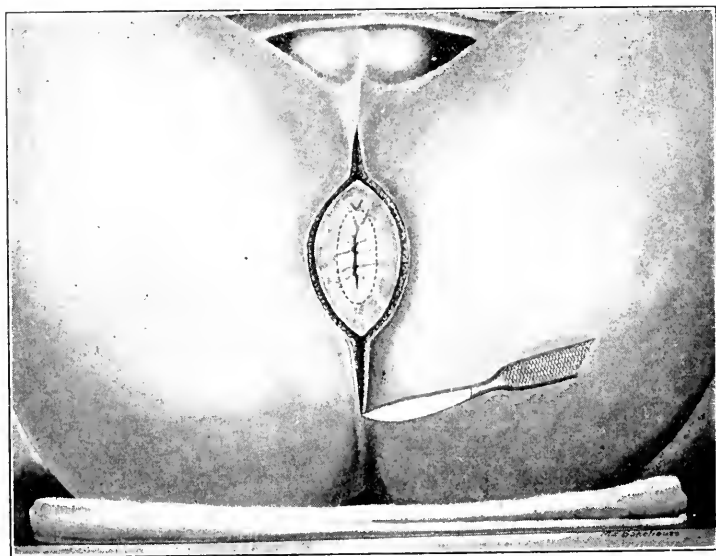


FIG. 1. Incision for perineal excision of the rectum.

to epithelioma near the anus and is not applicable where the cancer is in or above the rectum proper, thus leaving a piece of healthy bowel below it at the anus. The immediate mortality of the perineal extirpation of the rectum is due to infection which may occur during the operation from introducing the finger into the rectum and then into the wound or by accidentally cutting or tearing into the rectum and thus allowing the intestinal contents to flow over the wound. Later infection occurs from

by combined extradural and hypogastric anesthetization to limit the post-operative shock.

A circular incision is made around the anus, extending from near the base of the scrotum to the coccyx (Fig. 1). This incision should include as wide an area of skin as possible so as to insure excision of the zone of downward spread. The wound is deepened one-half inch and carried toward the white line, separating the skin and mucous membrane flap until the

sphincter is exposed. The incision is next continued anteriorly to the central point of the perineum and posteriorly back alongside of the coccyx to the sacrum. A tubular mass containing the anus is dissected loose and is securely closed with a stout silk purse string ligature. A gauze wipe is fastened over the anus and the silk ligature used as a tractor later. I remove the coccyx as a matter of routine. It affords far greater room, obviates pain that follows the operation when the coccyx is

tissue and glands are carefully separated from the sacrum. The mesorectum may need to be freed from the rectum by snipping with scissors curved on the flat. This cavity is packed with gauze. The rectum is then drawn back, the index finger is hooked above the anterior portion of the levator ani, which is farther from the surface than the posterior portion and with scissors it is separated from the rectal wall. These anterior fibers of the levator muscle practically constitute the recto-urethralis

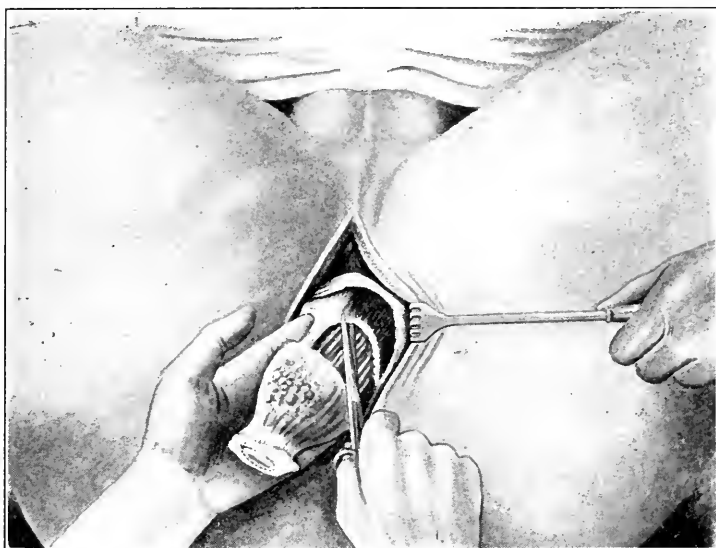


FIG. 2. Opening of the pelvic floor by separating the fibers of the levator ani.

not removed, permits of thoro drainage and adds materially to the comfort of the patient in subsequent dressings.

The rectum is drawn forward and the levator ani muscle about $1\frac{1}{2}$ inches above the anus is opened by separating the muscle fibers with a pair of scissors. By spreading the blades of the scissors a large opening may be made (Fig. 2). An opening in the pelvic floor is made on either side. The surgeon's hand is passed thru this pelvic opening and the rectum, mesorectum, fatty

muscle of Proust. This manetver separates the rectum from the urethra and prostate. From here up toward the peritoneal reflection the rectum is loosely attached, but at the level of the rectovesical pouch it is necessary to divide the fascia on either side where it passes as strong fibrous (lateral pelvic-rectal) bands to the fourth sacral foramina. When the peritoneum is reached it can usually be worked up, off of the rectum, but if not, it will be opened and gauze immediately packed in to prevent the small

intestines prolapsing into the wound. The lateral supports of the rectum are fastened by two clamps and cut between, thus preventing bleeding from the middle hemorrhoidal artery. The rectum being now freed should come down easily. If it does not do so, the finger should be swept around the rectum and the binding attachments separated. Do not pull the rectum for fear of tearing the mesentery and causing severe hemorrhage. The rectum is drawn out until healthy bowel is brought outside of the anus.

intestinal wall by interrupted catgut sutures. The peritoneum must not be tightly drawn around the bowel nor fastened with continuous sutures lest subsequent strictures of the bowel result. The levator ani is sutured to the bowel carefully, closing with No. 1 chromic catgut, the dead space in front of the bowel. The divided sphincter muscle is approximated to the bowel by sutures dipping down to the muscular wall of the gut and the anterior and posterior cuts in the muscle are closed. The rectum is nicked across anteriorly to see that the mucosa is

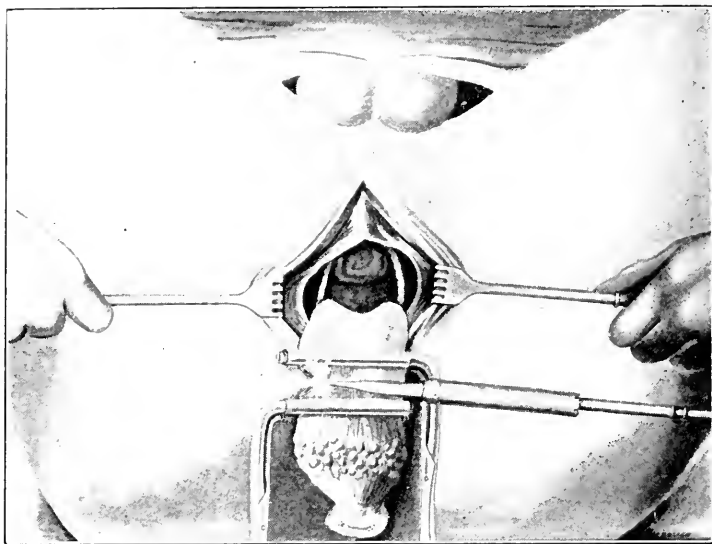


FIG. 3. The loosened rectum is about to be excised.

Enlarged lymph nodes are sought for in the hollow of the sacrum and if found are removed. The healthy intestine is brought outside the anus and the surgeon satisfied that its circulation is sufficient (Fig. 3). If there are no pumping arteries in the transverse cut end of the bowel it is better to amputate at a higher level than to risk the danger of gangrene. It should be amputated not less than one inch above the upper limit of the growth.

The peritoneum is closed to the anterior

healthy and its blood supply sufficient and if found satisfactory the incision is carried around the bowel. The mucosa must be picked up with snap forceps and the bleeders sought, especially at the mesentery.

If it be found that there is too great tension on the superior hemorrhoidal artery to permit good circulation in the proximal end of the gut, when it is drawn down to the anus, the perineal wound should be packed, the abdomen opened and the sigmoid and blood vessels further freed from

above, and then the perineal part of the operation continued.

Waxed gauze drains are placed in the anterior and posterior angles of the wound, the skin wound is closed, the mucous membrane approximated at the new anus, a rectal tube is inserted, the patient's legs are extended, the buttocks are strapped together with adhesive plaster and a large diaper of loose fluffy gauze held by a T bandage. The gauze drains are removed at the end of forty-eight hours and if there is no bleeding they are not replaced.

The patient is placed on his side in bed with his legs extended. Do not allow him on his back as in that position fluids accumulate in the pelvis. The head of the bed should be raised.

After-Treatment.—The patient needs to be closely watched for the first 24 hours. Morphine is allowed to keep him quiet and free from pain during this time. These patients suffer considerable from distention and eructations which may necessitate washing out the stomach with warm saline solution followed by 20 min. dilute hydrochloric acid in a glass of water every 4 hours. These patients are generally lacking in hydrochloric acid. As soon as the stomach permits he is allowed beer, egg albumen, broths, soups and in 4 days meat. Early and forced feeding is essential and the patient should be gotten out of bed as soon as possible.

At the end of a week the patient is given a dose of castor oil, calomel or cascara and before the bowels move he is given a warm saline enema followed by an injection of olive oil or mineral oil to be retained. After each evacuation the rectum is irrigated with warm saline solution, and this treatment is continued for several weeks.

ENDEMIC HEMATURIA.

BY

J. G. JISR, M. D.,
Cairo, Egypt.

Bilharziasis is a chronic infection by a species of blood-fluke, having for symptoms the passage of the ova either from the bladder or rectum.

It is not my object here to describe the two different types of the parasite, *vis.*, schistosomum hematobium and the schist Mansoni, as these are already very well known, nor do I think it necessary to go into the details of its life cycle since this was determined by Leiper in 1916, whose investigations proved the intermediary host to be a fresh water snail, "Bullinus."

The most probable way of infection is that the cercarius, after being discharged by the said snail into shallow fresh water streams, penetrates the skin of its future victims either while these happen to swim or otherwise walk in the infected pools.

Infection thru the alimentary canal is, yet, a matter of much controversy, unless this takes place in the mucous membrane of the mouth, on account of the acidity of the gastric juice.

Reaching the portal vein, it is claimed that the parasite attains maturity in about six weeks.

The treatment up to a short time ago was altogether unsatisfactory, being only palliative and the disease running its course over several years.

It was only recently that tartar emetic administered intravenously proved itself to be almost a specific. The following is the method I adopted, and that I am still pursuing, in treating all the cases that call for treatment:

All that is needed is, preferably, an all-

glass, 10 c. c. syringe, a wide-mouthed bottle and glass stopper, the tartar emetic and distilled water. The appropriate dose was invariably prepared (sterilized) immediately before use and all the cases were treated in private practice; some were obliged to travel back to their homes, either walking or donkey riding, for half to one and a half hours.

The initial dose for an adult above fifteen years of age is one-half grain, and was given in 5 c. c. distilled water; for those below it was one-quarter grain.

The injections were given on alternate days and the dose of the tartar emetic increased by one-half grain until a maximum single dose of two grains was given to adults above fifteen, and one and a half grains to those below, the amount of distilled water being 10 c. c.

The injections were continued until a total of thirty grains was given to those above fifteen, and fifteen to twenty grains to those below. The following is a list of the immediate effects that were noticed:

(1) Faintness. Almost all had a sense of faintness, very mild in some, quite severe in others, but which soon disappeared with no untoward effect.

(2) Cough. Fifty per cent. had a cough which never lasted more than half an hour.

(3) Vomiting. Twenty-five per cent. of the cases vomited; in one patient this lasted three to four hours after the injection; another vomited regularly immediately after every two-grain injection; this lasted for ten minutes only.

Amelioration usually appeared after the fourth injection; the blood ceased after the eighth and no ova could be detected after the twelfth.

Both vesical and rectal types were treated, the former, however, responding better. One of the rectal cases never im-

proved, tho given, in all, twenty-eight grains.

One vesical case, a boy 15 years old, improved greatly under the treatment, which was stopped after he had fifteen grains; a month later he had a relapse, the most probable cause, tho that is not quite known yet, is to my mind, that not enough tartar was given.

Another case was a pregnant woman; she had an adult full course, was completely cured, and tho she had severe vomiting after the last four injections, yet this did not in any way affect the pregnancy.

The following precautions should be taken:

(1) The injection should be made on an empty stomach.

(2) It should be made into the vein, otherwise sloughing and suppuration are a sure sequelæ even if a drop of the tartar passes subcutaneously.

(3) Half an hour's rest is usually enough after the injection.

(4) The following mixture was given in those cases with vomiting half an hour before the injection.

Tr. Iod.	5 min.
Ac. hydrocyan. (Dil.)	2½ min.
Aque	15

It, in most cases, gave relief, tho not to a very great extent.

Doubtless the results obtained so far are very encouraging, but I believe that this treatment is yet in the cradle and am thoroly confident that it will not be long before it attains perfection.

Organotherapy in Cerebrospinal Meningitis.—Mery (*Le Bulletin Médical*) and two others report a case of cerebrospinal meningitis due to the meningococcus, which had culminated in a severe cachectic state. There was no response to serum, autovaccination, or fixation abscess, but a prompt recovery under extracts of hypophysis and suprarenal gland.

THE IMPORTANCE OF ROENTGEN- OLOGY IN ORTHOPEDICS.

BY

WILLIAM BARNETT OWEN, M. D., F. A. C. S.,
Louisville, Kentucky.

The recent World War, with the inevitable concentration of physicians of every type (including the various specialists), has brought together men of recognized ability who are necessary to each other's success; it has been the means of forming combinations in certain branches of medical practice not hitherto closely allied; and the outcome has been more intimate union of the specialties, better work on the part of doctors generally and last but not least, a vast improvement in end-results to patients.

The Roentgen ray is a most valuable means of confirming the clinical diagnosis and demonstrating the character, location and extent of damage inflicted upon osseous structures, and also in the diagnosis of various pathologic lesions involving visceral, glandular and other structures, the localization of foreign bodies embedded within the tissues, body cavities, etc. While the use of the X-ray in orthopedics has been practically universal since this method of examination was devised, the present-day orthopedist is more conversant with its advantages and the assistance it may afford, largely due to the extent to which it was employed during the late war.

There has seemed to be a tendency on the part of certain orthopedists to limit the number of Roentgen-ray examinations with the idea of saving the patient expense. This not only entails greater responsibility on the part of the orthopedist, but is not conducive to the best end-results. With the large increase in the number of X-ray machines at present being installed thruout

the country, the fees for this class of work should become reduced and result in more general use of this valuable means of diagnostic confirmation.

The orthopedist has done more to establish the value and necessity of Roentgen-ray examination than any other specialist. It has become so much a part of his *modus operandi* that the requisite apparatus has been added to his armamentarium, and routine Roentgen-ray examination is now the invariable rule. This method of investigation necessarily increases diagnostic accuracy, it improves working knowledge, and in addition, affords a better understanding to the patient when serious pathology is encountered; but the examination must be conducted in such manner as not to work financial hardship on the patient.

It scarcely need be repeated that at least two roentgenographic plates should be made of every fracture, before attempted reduction, to determine the position of the fragments, character and extent of the injury; and it is equally important that plates be made at various intervals after reduction to be certain that correct anatomic apposition has been secured and maintained.

In spinal curvature, regardless of type and manner of production, a roentgenographic plate is not only necessary to direct the therapeutic efforts of the orthopedist, but constitutes indisputable evidence to patient and parents as to the nature and extent of the deformity as well as the necessity for corrective measures. Subsequent plates made during treatment tend to stimulate interest of the patient and parents, and also assist the orthopedist in determining his future plan of action.

The misplaced sympathy and ill-advised counsel given by unwise neighbors and friends to parents whose child has to be

encased in plaster of Paris for an indefinite time forces upon them an undesirable "hell of indecision," and roentgenographic plates showing improvement will oftentimes induce them to permit the surgeon to continue necessary treatment. This is also true in the treatment of Pott's disease, where altho the patient may gain in weight, enjoy freedom from pain, and be able to sleep and eat normally, the whispered vaporings of ignorant friends and neighbors tend to foster in the mind of patient and parents a state of uncertainty which may often be relieved by a properly made and explained roentgenographic plate.

Roentgenographic plates of flat-feet are sometimes not made by orthopedists when the clinical picture is self-evident; this we believe is a serious mistake. The underlying cause of flat-foot may be a spur on the os calcis which may demand a surgical operation instead of supportive apparatus; or in some instances both may be required. Plates correctly prepared and explained to the patient or parents will demonstrate the nature of the pathology and at the same time be a convincing argument as to the necessity for treatment.

We believe the orthopedist should be the custodian of all original plates made of his patients, provided such plates are made by an X-ray laboratory. Of course, this contingency will not arise where the surgeon has his own roentgenographic equipment. The superiority of plates over reprints is so universally conceded that the former should always be used instead of the latter where possible.

The manufacture of so-called "duplicated" films has made possible the making of two negatives with one exposure, *i. e.*, one film lies upon the other, and of course, one is an exact reproduction of the other.

This method is expensive and unnecessary where the orthopedist and roentgenologist are in the same city and the patient is located adjacent; but where the patient has to travel a considerable distance for examination, this procedure makes it possible to furnish the local medical attendant a negative instead of a reprint.

It is only by a greater volume of business that present-day roentgenologists can reduce the cost of their work. Self-styled and immature technicians are "springing-up" over night in every locality, and unfortunately X-ray laboratories are being equipped more with the idea of making money than firmly establishing the science of roentgenology. It is hoped the impetus given to one will not act as a boomerang to the other, and a science so valuable as roentgenology be made to suffer thru overzealous or inefficient workers in either line.

SOME OF THE DETRIMENTAL EFFECTS ON THE CHILD RESULTING FROM PROTRACTED LABOR.¹

BY

P. H. BROUDO, M. D.,
Detroit, Mich.

My justification for presenting this paper is the fact that a very large number of physicians are still laboring under the delusion that a normal confinement case is one in which no operative methods are employed.

There are two million five hundred thousand births annually in the United States. Two hundred and fifty thousand die within the first four weeks of life and a still greater number are destined to suffer a liv-

¹ Read before the Maimonides Medical Society.

ing death, burdened with feeble-mindedness, idiocy, palsies, aphasias, paraplegias, etc. I am very anxious, therefore, to impress you with the seriousness of one of the main factors in the etiology of these dreadful conditions.

In a paper read before the New York State Medical Society in 1919, Hirst, of Philadelphia, showed that over 10 per cent. of children born die of immaturity, asphyxia, atelectasis, malformation, injuries and infection. Of these, injury to the brain is the most frequent. The injury may be that of meningeal hemorrhage due to rupture of the small blood vessel, to laceration of the longitudinal sinus or a fatal intracranial hemorrhage. If less in degree, the child may live to adult age, but is apt to show impaired physical or mental development. There may be simply compression of the brain causing asphyxia. The injury may only affect the intellectual centers. Persistent priapism may be seen occasionally as a result of injury to the brain or cord. I have personally seen two such cases; in one, a little boy two and a half years, with a history of seventy-two hours so-called normal labor, the mother said the erections were so frequent that she could never undress or uncover the child without finding him in that condition. As to peripheral nerves, the facial nerve and the brachial plexus are most frequently involved. The facial palsies usually clear up in a short time. The brachial palsies result from the unskilled attempts at extracting the shoulders and arms or by traction on the head. They are often permanent. Distortions of the head are very common.

Cephalhematoma due to pericranial hemorrhage, which lifts the pericranium from the bone, irritates it, and stimulates it to bone production. The text-books pass this

condition up with the mere statement that it usually clears up in six to eight weeks, leaving a ridge of bone on the skull. It seems to me, however, that an injury which may cause that much objective symptom may very readily produce at least a slight but permanent cerebral damage.

Sloughs, due to the destruction of the vitality of the scalp by forceps or by prolonged pressure from pelvic bones, often appear in the first few days. Hirst sums up with a single sentence, saying, "The effects of many of the birth injuries may be death, or permanent disability in which death is often preferable."

Instrumental delivery and injury to the after-coming head in sudden extraction after version are, however, not so often the causes of these brain conditions as prolonged and unnecessary drawn out labor.

Doctor Arthur Stein, of New York, whose article in the *Journal of the American Medical Association* is perhaps the most complete in the literature on this subject, proves very conclusively that prolonged labor is the greatest cause of damage to the future mental development of the child. He states that instrumental delivery, especially by the obstetric forceps, has often been accused of being the cause of birth traumatism, and has undoubtedly caused serious mutilations in the hands of unskilled men, but its action can never be so prolonged or profound as the protracted moulding of the soft cranial bones in a very narrow or otherwise obstructed pelvic passage.

Unduly prolonged or otherwise abnormal deliveries may damage the child in three ways:

First, direct contusion of brain substance.

Second, local congestion and rupture of

intracranial vessels by overriding parietal bones.

Third, by general congestion of the venous system caused by obstruction of fetal circulation and resulting in capillary rather than diffuse meningeal hemorrhage.

Kudrat, writing in the *Wiener Klinische Wochenschrift*, states that prolonged compression of the child's skull in the passages in difficult unassisted labor is one of the causes of the displacement of the cranial bones and a resulting circulatory disturbance in the venous sinuses.

Grace Peckham Murray reports her experience with three still-births due to unduly prolonged labor. If damage to the brain may be sufficient to destroy life, it is not unreasonable to assume that other infants who survive do so with irreparably damaged brains.

In many of the histories, of institutions for mental conditions, there is usually the story that "birth was natural" and so it is quite difficult to collect extensive statistics.

In 562 case records at the training school for mentally abnormal children at Vineland, N. J., history of prolonged labor, "up to three days" appears 125 times, 54 of these were without instruments. Please bear in mind that where a protracted labor ends with instrumental delivery a long, drawn-out moulding of the head must be blamed for the damage done at least not less than the hastily and improperly applied forceps.

The German obstetricians, Dührssen and Kintzel, who have studied the question more than others, claim that unduly prolonged and difficult births exert a far more injurious influence on a child's brain than the skilled application of forceps. In their records, out of 450 idiotic children 4.5 per cent. were due to prolonged labor and only 9 per cent. due to instrumental delivery.

The figures of the different neurologists offer us more statistics than that of the obstetric clinics.

Tissier's records of the Bicetre Institute in Paris show that out of 76 idiotic children, 18 were born asphyxiated after prolonged labors, and 18 with prolonged labors were not asphyxiated.

The English writers, Butterworth and Potts, on the basis of an experience with 2,380 mentally deficient children, state that

"among causes acting at birth undoubtedly most important is prolonged parturition." It is unquestionable that asphyxia neonatorum so often due to unassisted labor is in some cases followed by birth palsies and enfeeblement more or less severe of the intellectual powers.

A. F. Currier, of London, says a large head in a small pelvis, or even a normal head in a nearly normal pelvis, may be retained so long that the brain will be dangerously compressed; this is common in inertia. A skull compressed for a long time may resume its normal condition after a time and give no outward evidence of injury, but it is quite probable that if the sensitive brain has undergone compression of considerable degree for many hours, the result will be disastrous for the child, imbecility or idiocy resulting, and the records prove these may not be present for many years after birth.

Volland collected a number of family cases showing that in the same family the normally born children remained well, whereas those born after prolonged labors became epileptics.

Jeliffe and Peterson, in their text-book of legal medicine, claimed that parturitional factors, including meningeal hemorrhage from prolonged labor, are active in about 18 per cent. of the cases and emphasize the fact that forceps traumatism is less injurious to the infant than tedious labor.

Peterson and Fisher, as far back as 1889, wrote, "It is probable from careful investigation that the use of forceps has little to do with causing these cases, but on the contrary, its delayed employment or non-use more often results in danger to the child."

Sachs and Peterson, after an analysis of 140 cases of infantile cerebral palsies, say: "A child's brain and skull have a wonderful power of resistance, but do not credit them with greater virtue in this respect than they really possess. The mother's life is by far the most important, but it is well to reflect that other things being equal, she prefers a child that is neither paralyzed nor idiotic."

Fletcher Beaches' figures in the *London Lancet* "give a 27.28 per cent. of idiocy caused by prolonged labor in 216 cases, with only 4.3 per cent. in which there was a history of forceps."

This is, therefore, an appeal that labor be shortened by intelligent interference. We must thoroly know of the condition and measurements of the patient before she goes into labor. All complications of pregnancy should be taken into account and remedied if possible.

We must see that the passages and passengers are in relative proportion. In a normal or nearly normal pelvis a child of seven to seven and a half pounds should have no difficulty in passing provided the forces of labor are sufficient. Inertia must, if possible, be prevented by not allowing patient to spend her strength during the first stage. Morphine may be given freely to rest the patient for the final efforts of the second stage. At the Lying-In Hospital of New York, where nearly 9,000 deliveries take place annually, neither the resident nor attending staff have ever been able to prove a single case wherein morphine injured the child.

The smaller but essential obstructions so often due to full bladder or colon or rectum should be remedied. The forces of labor are easily increased by putting the patient in a large chair with thighs and knees in extreme flexion. This is an imitation of the old squatting position, which is maintained from one-half to one hour. If, however, it becomes necessary to use forceps they should not be decided upon too late. Instruments should be used in which the cephalic curve is large enough to prevent compression of fetal head. The shortening of the pelvic curve of the forceps helps to prevent brachial flexus injuries. An attempt to deliver the head without frequently releasing the blades is a criminal procedure.

Disproportion, however, between passenger and passages must, if possible, be taken

into account before labor begins. In cases of deformed or contracted pelvis, the operation of choice should be decided upon before patient goes into labor.

Post-maturity must be watched for and prevented. During the last year eleven patients that I delivered had over-term babies. This is due to lack of cooperation on the part of the patients in neglecting to report at intervals and to verify dates of which they had little definite information.

Conclusion.

(1) Too many physicians are inclined to regard non-operative deliveries prolonged and drawn out as natural.

(2) Two hundred and fifty thousand infants die within the first four weeks of life and a still greater number are permanently injured either physically or mentally due to conditions which are preventable.

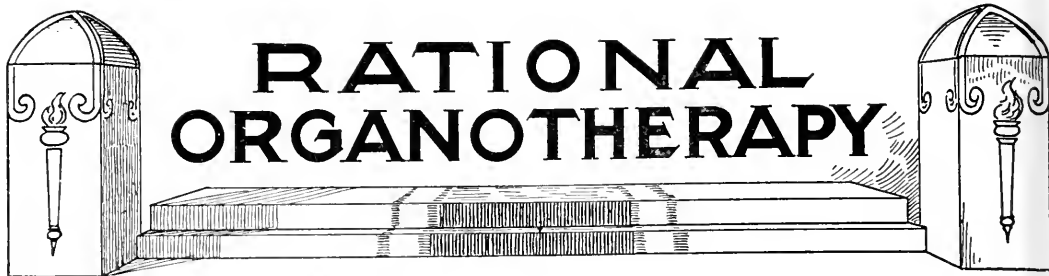
(3) A large number of investigators have shown by their figures that mental undevelopment is largely due to prolonged and protracted labor.

(4) Intelligent and skilful instrumental deliveries need not result in any injury to the infant's head.

(5) Post-maturity should at all times be prevented.

664 Algar Ave.

Can Pneumonia Be Aborted?—Some thirty years ago, Prof. A. B. Palmer, Dean of Michigan University, discovered and published the fact that from 30 to 60 grains of quinine, given within twelve to twenty-four hours, will abort pneumonia in any stage of the disease. Add Dover's powder to control cough and an active cathartic to act as eliminant; best, Epsom salts, dissolved in hot lemonade. I have used the treatment for years with most satisfactory results. Remember that quinine in large doses is harmless to either children or adults. Often, your pneumonia is a thing of the past within three to four days. Try it.—X. Y. Z. in *Amer. Jour. of Clinical Med.*



Role of Endocrine Glands in Acne.—In patients showing an increase metabolism, Hollander (*Archives of Dermatology and Syphilology*, May, 1921) prescribes, in addition to regulating the patient's habits, enforcing dietetic and hygienic measures, cleansing of the skin with hot fomentations at night and frequent washings during the day, aseptic removal of comedones, opening of pustules, and suprarenal gland substance, 5 grains, three times a day. In cases of the opposite type—lazy, plethoric, over-nourished, closely bordering on lowered thyroid gland activity—the patient is instructed to carry out the measures mentioned and he receives thyroid gland substance, one-fourth grain, three times a day. Hollander is impressed with the correctness of the conception that the underlying etiologic factor in acne is somewhere in the domain of the endocrine glands—probably in the gonads. In a good many instances the endocrine administration described is supplemented with ovarian or testicular extract administration. The administration of dry gonad extracts has proved unsuccessful.

Osteomalacia and the Endocrines.

Study by pathologists of endocrine changes during the evolution of osteomalacia, says the Geneva correspondent of the *Med. Record* (May 14, 1921), has not been devoted to this subject for sufficient time to have as yet resulted in obtaining any precise data, but the presence of goiter in senile osteomalacia has been encountered sufficiently often to justify the study of this problem. Askanazy, professor of pathology at the University of Geneva, has performed within the last few years autopsies in thirty cases of senile osteomalacia, namely, twenty-eight females and two males. In the female cases the presence of goiter or

some change in the thyroid gland was noted in seventeen, and it must be remarked that in some autopsies this gland was not examined. But as cases of osteomalacia became more frequent, the indications relating to the state of the thyroid have increased both in number and precision.

For the past few years Askanazy has weighed the thyroid at each autopsy; the two following tables show the average weight of the gland for each decade:

1917			1918		
From		Number of Grams	From		Number of Grams
0 to	10 years..	17	0 to	10 years..	9
11 to	20 years..	43	11 to	20 years..	45
21 to	30 years..	59	21 to	30 years..	52
31 to	40 years..	71	31 to	40 years..	54
41 to	50 years..	66	41 to	50 years..	49
51 to	60 years..	62	51 to	60 years..	54
61 to	70 years..	80	61 to	70 years..	67
71 to	80 years..	86	71 to	80 years..	72
81 to	90 years..	89	81 to	90 years..	56
91 to	100 years..	130	91 to	100 years..	55

It should be remarked that the decrease observed between the age of forty and fifty years corresponds with the variations of sexual activity, so frequently disordinate, and that after this epoch the size of the thyroid usually increases, perhaps because it plays a part in pathologic corruption of the organism. Let it also be recalled that the average weight of the thyroid is given by many observers as between 22 to 25 grams in the adult, but it is also quite true that the average varies according to the country. However that may be, the thyroid tends to increase in size with age, as Askanazy's tables show, and he also states that in old subjects with goiter, calcification of the cartilages of the larynx is not always observed.

Blood Pressure and Epinephrin Treatment in Tabes.—Démètre (*Bulletins de la Société Médicale des Hopitaux*, March 11,

1921) asserts that he has found the arterial tension unusually low in all tabetic patients examined, without pronounced disease of the aorta. The conclusion that there is a deficit in epinephrin conforms to the facts observed in regard to the asthenia and hypotension, for epinephrin treatment restores these conditions to practically normal and arrests the gastric crises and the lightning pains. The cure of neuralgia with epinephrin has been reported from various quarters and Röhmer found the gastric crisis arrested in fifteen or twenty minutes and that the effect lasted for several hours in his four cases, and also in a case of laryngeal and in one of rectal crises. Zanfognini obtained similar results with epinephrin by the mouth. Marinesco has given the epinephrin by subcutaneous injection, with complete success in eight of the tabetics thus treated, and Démètre has had constant success in this line in quite an extensive experience. He injects 1 c. c. of the 1:1,000 solution of epinephrin, repeating it next day at need. Lightning pains subside completely in half an hour; the tabetics feel stronger and the blood pressure rises. He tabulates the details of fifteen cases, saying that the benefit from epinephrin confirms that the gastric crises and the lightning pains are manifestations brought on by subnormal arterial pressure. For this reason treatment with epinephrin is logical.

The Intravenous Use of Corpus Luteum Extract in Nausea of Pregnancy.—

It was in 1915 that Hirst first began the use of corpus luteum extract by hypodermic injection in the treatment of the nausea of pregnancy, basing its use on the theory that every woman, during the period of sexual activity, is constantly absorbing corpus luteum. With the onset of pregnancy this absorption ceases. The corpus luteum of pregnancy increases in size, until it reaches its acme about the third month. From this time on it is gradually absorbed. The nausea of pregnancy, beginning during the period of non-absorption, disappears about the time that the corpus luteum begins to decrease in size. Preparations of the corpus luteum available are: (1) A compressed tablet, containing about 5 grains of the dried substance; (2) powdered extract,

and (3) ampules for hypodermic administration, containing 0.2 gm. of the dried substance in solution in 1 c. c. of physiologic sodium chloride solution. Corpus luteum may be administered by mouth, by subcutaneous injection, by deep intramuscular injection, or by intravenous injection. The writer considers intravenous injection the ideal method for the following reasons: 1. The material used is carried directly into the circulation, giving the most rapid absorption possible. 2. It is possible and advisable to use a considerably larger dose (two or three ampules) than is possible with the intramuscular injection, in which more than 1 c. c. causes considerable local reaction. 3. Each ampule contains only 0.2 gm. of the extract, and in this way the necessary total quantity can be introduced more easily and quickly. 4. There is no local reaction or discomfort of any kind after the injection. 5. Intravenous administration often controls the vomiting promptly, in cases in which intramuscular use has failed. The dosage varies with the type of case. Anaphylactic reactions need not be feared. The presence of a goiter in early pregnancy absolutely contraindicates the administration of corpus luteum extract, either intravenously or intramuscularly, for the control of nausea. In not a single case, in the writer's experience, has there been any rise of temperature or any evidence of infection following the intravenous use of the extract. The results are more gratifying, more prompt, and more lasting than by any other method.

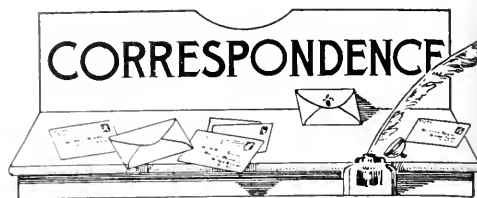
Headache of Pituitary Origin.—

Redwood says (*Virginia Med. Monthly*, April, 1921) he does not know of any disease where treatment is so gratifying as in the majority of headaches due to an altered secretion of the hypophysis. The feeding of pituitary extract will, in short time, decrease the headache, the nausea and vomiting will disappear, and the patient will be more comfortable. He usually starts the treatment with two grains of the whole gland three times a day, given between meals. Redwood has generally used the Burroughs and Welcome product, but any preparation is satisfactory if its freshness can be assured. Pituitary extract has not

been standardized, therefore the strength varies according to the brand selected for use. Six grains daily (B. & W.) will be sufficient for the average case but larger doses may be employed if necessary. The author has had several cases that took sixty grains daily (B. & W.) for some time without ill effect. Blood pressure readings should be made frequently as occasionally the pressure will increase. After the case has improved, the dose should be decreased so as to give the gland a chance to readjust itself. According to Timme, there are a certain number of cases that will cure themselves, as is shown in acromegals without symptoms.

During the past year Redwood has seen a number of patients whose sole or chief complaint was headache. In eleven of these cases he has traced the complaint to a pituitary origin. All cases showing positive Wassermanns, urinary findings indicating nephritis, and reflex cases such as pelvic disease in women, have been eliminated. All cases with any associated disease that could possibly have a bearing on the headache are not included. Some of these cases had other complaints, for instance, convulsive attacks or diabetes insipidus, but all of them had headache. Of eleven cases, seven occurred in the female and four in the male. Seven had very small sellas closed in by the clinoids and four had sellas normal in size but the clinoids enclosed the fossa. Six had headache every day, three every two or three days, and two once a month. One case had been troubled with headache since he could remember; the others from six months to seven years. In eight cases the headache disappeared entirely or has been greatly relieved, two cases of long standing have not been benefited in the slightest, and one case has not been heard from in several months.

Diet in Typhoid Fever.—Duque (*La Medicina Ibero*, April 24, 1920) finds that the main objection to a milk diet in typhoid is the resulting meteorism which is often troublesome and persistent until a mixed diet is resorted to. He considers that the diet of choice in these cases is a mixed one of purées, eggs and fruits, which is contraindicated only in exceptional cases.



The Narcotic Situation.

To the Editor,

AMERICAN MEDICINE:

With the meeting of the American Medical Association but a few weeks distant, it is most important that the profession thruout the country profit by the knowledge of certain facts recently revealed at Albany and in the Annual Meeting of the New York State Medical Society.

1. A certain small body of about a dozen men, without any special qualifications, have been at work widely dispersing certain propaganda and formulating legislation that threatens to destroy the fundamental right of the physician, and to make the whole narcotic problem more complex.

2. The medical profession is unorganized and lacking in interest. This we feel will be largely overcome by a knowledge of the facts.

A few days prior to the hearing on four narcotic bills before the Joint Committee on Public Health of the Legislature, the nature of one, particularly desired by the above-mentioned body, was stated in some of the daily papers. This was the Fearon-Smith Bill. It aimed to institutionalize all cases of addiction disease, on the ground that it was "communicable and pestilential." The respectable law-abiding citizen and the East side crook alike, were to be committed during the term of their addiction to state, county, municipal, and private hospitals—any old place as long as an "institution" and with nothing settled as to their treatment during their incarceration. The physician was denied the right to prescribe for and treat his case according to conditions encountered. The result was that the hearing in Albany, which they expected to conduct in one of the committee rooms, required the Assembly Chamber itself and doctors, druggists and interested laity filled that, even to the last row. From all parts of the State they had come to protest against the passage of this Bill. And as one after another spoke from different angles against the inhuman, unjust and faulty requirements in this proposed law and pleaded for the retention of the physicians' rights to shoulder the full responsibility for the proper care of the weak and diseased, a great deal of spontaneous enthusiasm was shown.

The State had started to wake up to the situation.

Then came the report of the Committee on Legislation to the House of Delegates of the Medical Society of the State of New York. This contained among other important legislative matters for consideration a clear, succinct explanation of the four narcotic measures that

were then before the Governor for his signature or veto. It was brought out that these, and the regulations as to alcohol, were "merely the beginning of an attempt to completely control therapeutic methods."

Some of the same group that had been for the Fearon-Smith Bill in Albany were at work here with their carefully allotted subjects and diverting tactics. Dr. James F. Rooney, Chairman of the Committee on Legislation, had been challenged in open hearing at Albany by the Chairman of the New York County Society Committee on Legislation, as to his authority to speak for the State Society, and against the Fearon Bill. Dr. Rooney with great rapidity left no doubt as to his right in the minds of his hearers. At the State Meeting he called attention to the following facts: "The various Committees that have been appointed to 'investigate' the subjects (narcotic and alcohol) apparently have had as their foremost requirement for membership thereon, the proof of lack of experience with the subjects to be considered by them and their reports have always been entirely standardized and apparently written *ad hoc*, by an interested group comprising not more than ten men in the medical profession and two lawyers. Their investigations have not been unbiased, their findings have not been judicial and their reports have been largely *ex parte* formularizations." Dr. Rooney was enthusiastically made President of the New York State Medical Society the next morning. Another step forward was taken, in spite of the steam roller and machine working for a hand-picked candidate.

A short time ago Governor Miller vetoed the atrocious bill of the above-mentioned group, and an article appeared in the *New York Tribune* over the signature of a member of the now abolished Commission of Narcotic Drug Control that the profession was unfit to deal with addiction because a physician, Dr. Alexander Hunt back in the '50's had devised that serpent's tongue, the hypodermic syringe.

It will be recalled that the final statement of the widely spread report of the Narcotic Committee of the A. M. A. signed by Dr. E. Eliot Harris, contained the statement that the Committee was opposed to the ambulatory treatment of addiction and for institutional commitment. There is an effort under way at present to drag this into the Federal law. Who are these men who are doing all this work characterized in open hearing as "sinister," by Judge Collins, Chairman of the Narcotic Drug Control Commission of the State Association of Magistrates? Are they men of expert experience with addiction? They are not. They are gynecologists, skin, eye and nose and throat men. But the titles of the offices they hold give them great power and their views much weight and widespread notice. Therefore, an Assistant United States District Attorney advocates in Albany the adoption of the same Fearon Bill and Dr. Hubbard of the New York City Board of Health tells the Governor at his hearing that he represents the opinion of the United States District Attorney's office.

Actually New York State, with all these

efforts at legislation since the passing of the Federal Harrison Act, is back just where we started, except the experience with the harm done thru false moves. Isn't it time that men with real knowledge of addiction and the entire situation be heard? Dr. Rooney's Committee recommended the appointment of a Committee to make a state-wide investigation of narcotic addiction disease and suggest changes necessary in both the Federal and State laws. This recommendation was adopted by the House of Delegates.

All this talk of "ambulatory treatment" is utterly futile and misleading and adroitly fogs the real issue, which is *treatment*—the right kind of treatment for a vast army of sufferers, many of whom as most every doctor knows, are worthy, law-abiding persons, with their rights as citizens, doing their best to earn their livelihood, living decent lives, and not to be treated as pariahs with a "pestilential and communicable disease."

Physicians of this State are becoming alive to the dangers and needs of the situation and are spreading that knowledge. The press has played an important part in forming public opinion. Is law to be the only treatment of addiction disease? Our profession is singularly lacking in cohesion. Leaders are needed to overcome this handicap by gaining and spreading information, not alone because our rights as physicians are assailed, but because there is a need for trained manhood in a struggle which is human, righteous and wise. No hysteria, no vindictiveness, knowledge of the facts, voicing of the truth and we shall have begun the solution of this problem. We must have the right men for the Narcotic Committee of the A. M. A. That is our next big step forward. We shall have to fight to get them, but with the facts understood and the dangers and difficulties anticipated, there can be no doubt of the ultimate outcome.

Respectfully yours,

DOUGLAS BROWN, M. D.

19 Park Ave.

Group Diagnosis and Group Practice in General.

To the Editor.

AMERICAN MEDICINE:

I, for one, do not believe in group practice from any viewpoint. It is radically bad, in my judgment, and open to grave criticism. This "super-refined" diagnosis is not invariably desirable, and in many cases does not serve any essential purpose. To my mind, there is danger of the noblest profession becoming more and more degenerated into a trade—and a low one. Why mince matters for the sake of not giving offense to those who all too often do not merit either special esteem or special admiration?

In the old time, "cure the body and save the soul," was a daily working axiom with the medical profession. It was not, as it now is, very often, a game of catch-penny and personal glory. Already patients are being bandied around from pillar to post, and do not know

in whom to believe, and in case of need, for whom to send. Let us remember that medicine is an art, and *not* a science—even today. It becomes learned, truly and really, more by watching one's patients with a heart and mind, and doing one's best to promote the comfort and well-being of sufferers, than by merely checking up physical conditions or acquiring a mass of chemical formulæ. The sick man always needs mental as well as bodily help. The body is usually satisfied with what proceeds from a doctor's experience—experience which comes *not* from hospital beds, as a rule, but from carefully tending, night and day, the acute or chronic ills of those who depend upon their physician relieving or curing their bodily ills, if at all possible. Furthermore, what one requires as much, and in my belief, usually far more, is that true, genuine interest, which is the outcome of sympathy, and not merely of practical business methods. As soon as medicine becomes hard and lacking in sympathy, what is it really worth to him who needs medical care and attention? Alas! very, very little. After all, let your diagnosis of material changes in a patient's body be ever so accurate, what matters it if his mind or soul is not cared for as it should be? By soul, I mean a man's mental frailties—his feelings, his affections.

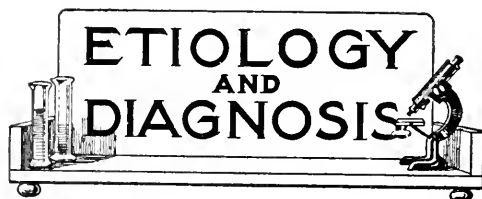
What made "our boys" superb in the late war? I mean those at the front, amidst shot and shell. What made the Red Cross, the Salvation Army, also, glorious? Was it not their absolute courage and doing their all for the dying, the wounded, the afflicted ones? Was it not their boundless self-sacrifice?

To me, many of these modern schemes for the advancement of science lose sight completely of what, after all, is the crowning glory of the medical profession, as I have known it.

Respectfully yours,

BEVERLY ROBINSON, M. D.

New York.



The Recognition of Scarlet Fever.—In making the diagnosis of scarlet fever it must be differentiated from measles, Duke's (fourth) disease; drug eruptions due to quinine, belladonna, antipyrine, opium, chloral, potassium bromide, potassium iodide, mercury and antitoxic sera; rubella (German measles); toxic transient erythema, which is, sometimes, seen in diphtheria; erythema scarlatiniforme, erythema scarlatiniforme desquamativum, and simple erythemas with or without tonsillitis (streptococcic). However, suffice it to say, that in the large majority of cases, the short incubation period (2 to 7 days), the very

short prodromal stage (24 hours or less), the early vomiting, the early sore throat, the characteristic punctate, fiery-red eruption; the very rapid pulse (140 to 165), out of all proportion to the temperature and the general condition of the patient, Pastia's sign (an intense continuous linear exanthem in the skin-folds at the bend of the elbow), the Rumpel-Leede phenomenon, the presence of "inclusion bodies" in the polynuclear cells of the blood prior to the sixth day, true leucocytosis (an absolute and relative increase of the polymorphonuclears), the rapidly growing cultures, from throat swabs, of the Class cocci, and the "strawberry" tongue—several or collectively will aid in making the diagnosis of scarlatina.

In measles, we have a leucopenia, Koplik spots, the peculiar rash and the catarrhal symptoms; while the marked contagiousness of the disease renders valuable aid in diagnosis. Measles is likely to be mistaken for scarlatina only in special cases. In scarlatina, we get tenderness about the neck, with pain on palpating the submaxillary glands, which are often swollen. In scarlatina, too, the congestive disturbance of the mucous membranes is mainly confined to the pharynx, tonsils and larynx. There is much more photophobia in measles than in scarlatina. In measles, too, there is a much more general catarrhal condition of the upper air passages, with coryza and the characteristic dry, croupy, hoarse, barking cough. The buccal mucous membrane, in scarlatina, as a rule, is of a bright-reddish tint and the uvula is very much injected. In measles, we get a more pale-bluish tint, with a coated tongue (whitish fur), with a few scattered, enlarged, reddened papillæ; the rash in measles does not appear until the fourth day, while, as stated above, the prodromal stage in scarlatina does not last longer than twenty-four hours. The dark-red maculæ and papules of measles, with the slightly cyanotic features, certainly differ from the bright-red punctate rash of scarlatina. The first lesions in measles appear on the upper part of the forehead, on the temples, behind the ears, and on the sides of the neck. Later, the rash appears about the eyes, mouth, and on the chin. In scarlatina, the rash first appears on the upper thorax and neck. Diarrhea is often seen in measles; it is rare in scarlatina, altho it does occur at times early in the disease.

Bolognini's "pathognomonic" sign of measles consists of a fine peritoneal crepitation or friction, as if two bottles were rubbed together, when the pulps of the fingers are applied with gentle pressure to the relaxed abdomen, while the legs are flexed. However, this sign is present in other affections and not of much diagnostic significance.

In rubella (German measles), the rash appears first on the face and is very evanescent; it is never entirely confluent, being always "measly" or "spotty" in appearance. Constitutional symptoms, otitis, severe pharyngeal involvement, and albuminuria are almost unknown in rubella. This is a most benign, short and mildly infectious disease. The onset

even is mild and slow and insidious, while in scarlatina it always is sudden. In a report of 150 cases, Griffith found some congestion of the upper portion of the anterior pillars of the fauces, with some swelling of the tonsils, in rubella, and Forchheimer described his small, discrete, dark-red (not dusky) papules on the soft palate remaining only about twelve to fifteen hours and appearing simultaneously with the exanthem, in rubella. Rehn also observed similar lesions on the soft palate and in the conjunctivæ. In rubella, too, we have adenopathy in 96 to 98 per cent. of all cases, the superficial or postcervical and the maxillary glands being most frequently involved. The occipital, and the anterior and posterior auricular nodes are frequently palpably enlarged. Finally, in rubella, there are the pinkish macules and papules, very often discrete, but frequently becoming confluent in a few hours; first seen on the face and scalp and next the neck and upper chest; without any tendency to form groups, crescents or clusters (as in measles). Most important of all, the prominence of the eruption varies in different parts of the body; thus, the eruption has already begun to fade on the face before it is fully developed on the trunk, and it is usually nearly gone on the face before it begins to fade on the trunk; also, it is usually nearly gone on the trunk before the legs are involved. This characteristic appearance of the eruption on various parts of the body helps to differentiate this disease from scarlet fever and measles.

The Tests for Functional Efficiency of the Kidney.—Riesman and Balen (*American Physician*, Dec., 1920) point out that the *functional tests of the kidney* are based on the following considerations: (1) On elimination of dye-stuffs or chemicals; (a) *Methylene-blue*; this appears in the urine in 20 to 30 minutes, and is the oldest method; (b) *Indigo-carmin*, which appears in about 10 minutes, and is of value in ureteral catheterization; (c) *Phenol-sulphonphthalein*; this drug is usually excreted in 5 to 10 minutes after injection. It is best injected intravenously, rather than into the gluteal muscles, especially in the case of edema, where there is no absorption. The quantity eliminated is estimated colorimetrically, and is normally 30 to 40 per cent. in the first hour and 20 to 30 per cent. in the second hour, a total of 60 per cent. in the two hours. Its non-appearance, or slight appearance, is significant of kidney insufficiency, and is of prognostic significance in surgical operations. The amount eliminated in the first hour is of particular importance. A low phthalein output may mean danger of uremia postoperatively. The great value of this test, then, is in surgical conditions, and in unilateral disease of the kidney; (2) *Lactose*—of no value; (3) *Estimation of the normal constituents of the urine*, as water, chlorides, urea and nitrogen. Retention of chlorides gives rise to edema. One kgm. of edema (water) represents a retention of 5 to 6 gms. of sodium chloride. (4) This is

based on *alterations of composition of the blood*, the freezing point, non-coagulable nitrogen, and carbon dioxide nitrogen.

Diagnosis of Diseases of the Liver.—Horder (*Practitioner*, May, 1920) recommends the following definite method to be followed in palpation of the liver. Find the lower border and trace its outline, always beginning the palpation sufficiently low down to ensure not missing the edge of an organ larger than anticipated; it is best to begin in the right iliac fossa and proceed gradually upwards. Ascertain whether the lower border is thin or thick, regular or irregular, normal consistency or hard, and whether it is everted. Explore the anterior surface for uniformity or the lack of it, and for the number and size of any irregularities, with any special feature these may possess. Judge the massiveness of the organ, using the bimanual method. Judge the degree of fixation of the organ by bimanual palpation when the patient is in the genupectoral position.

The Role of the Prostate and Seminal Vesicles in Arthritis.—Lowsley (*New York Medical Journal*, May 4, 1921) gives a report on a study of one hundred cases of gonococcus infection of the joints, occurring in Bellevue Hospital in the past two years, a certain number of which have been treated by operation and otherwise during the past six months, and some of which have been treated by palliative means. The investigation was conducted largely in the urological department, and the majority of the patients, sixty-seven in number, were treated in these wards. Twenty-five were treated in the medical wards, and two in the gynecological department. Previous similar attacks had occurred in 15 per cent. of the cases, while 66 per cent. of the patients complained of a previous gonorrhea. Twenty-nine per cent. denied previous attacks of either arthritis or gonorrhea. The knee was involved more frequently than any other joint. The results of treatment were not particularly brilliant in any of the series. Better results were obtained by operation and by cast methods than by any other, the period of residence in the hospital being two-thirds as long in the latter as in the former. The use of internal medication was productive of less improvement than any of the other methods tried. Local applications to affected joints proved beneficial in three-fifths of the cases tried. Gonococcus vaccine was beneficial in seven cases of eleven injected, and typhoid vaccine used in sixteen cases was at least temporarily beneficial in ten. Palliative treatment of the prostate and seminal vesicles resulted in two complete cures, five cases in which distinct improvement was noted, and two in which there was no improvement. Casts and splints were used in twenty-three cases. Improvement followed in less than 50 per cent. of the cases, but the series of carefully treated

cases in which heavy casts were applied and the joints baked afterward were signally successful, all showing marked improvement. Operations upon the seminal vesicles showed improvement in nine out of ten cases. The writer concludes that no case of arthritis in the male adult is properly investigated unless a rectal examination is made. Prostatic fluid should be examined in the fresh state under the high power lens of the microscope to determine the presence of pus or pathologic elements. The process of staining masks the true conditions in some instances. In chronic prostatitis the gonococcus is rarely met with.

"When is Gonorrhea Cured?"—Maurice Meltzer, writing in the *New York Medical Journal* (Oct. 2, 1920), claims:

A cured patient should present no morning drop or urethral secretion at any time of the day.

Microscopical examination should show no pus or gonococci in the urine, prostatic, or seminal vesicle smears.

The urine should be clear, tho in some cases small, non-infective, desquamating shreds may persist.

The urethral lumen should be free from any narrowing or stricture formation.

The complement-fixation test should be negative in conjunction with the other findings.

In doubtful cases the secretions from the genitourinary organs should be cultured to prove the absence of gonococci on suitable culture media.

Cystourethroscopic examination should show the urethra free of lesions.

The Fundamental Factors in the Etiology of the Acute Infections Diseases.—A close study of the subject, writes Blau (*New York Medical Journal*, May 18, 1921), has revealed three fundamental causes as being responsible for the incidence of contagion. In most instances the first two, and above all, the second are the dominating influences. These three factors are: 1, Errors in diagnosis; 2, faulty quarantine; and 3, defective disinfection.

Errors in diagnosis are responsible for a great percentage of the prevalence of the contagious diseases. This is particularly true of the milder forms of these diseases. These errors are due in most cases to the carelessness displayed in arriving at a diagnosis. If a child, with scarlet fever say, whose illness is diagnosed as being due to a gastrointestinal disturbance, is allowed to go to school after the subsidence of the acute signs and symptoms, we may reasonably expect secondary cases of that disease among the pupils exposed.

Mouth Infection.—The menace of an unclean mouth is well emphasized by R. A. Griffith in his comprehensive article in the *International Journal of Surgery* (Feb., 1921). He quotes

from some of our best known authorities as follows: Sir William Osler: "There is not one single thing in preventive medicine that equals mouth hygiene and the preservation of the teeth." Dr. E. C. Rosenow: "The opportunity to prevent and cure disease presents itself, as never before, to the medical and dental professions."**** The intensive efforts of the dental profession to save infected teeth without regard to the health of the patient have resulted in much harm." Dr. Frank Billings: "The recognition and removal of the 'focus of infection' is imperative to prevent secondary disease, and is demanded as a fundamental principle to stop the progression of ill health." Dr. Oliver T. Osborne: "A dentist's decision may mean a long life or an early grave for his patient. That a dentist's main problem is not one of filling holes in teeth or restoring masticating surfaces, or adorning his patient's oral anatomy, but one of life and death. That dentistry must be preventive or built for the future. That dentistry has been exalted to the highest rank of preventive medicine, and it is for each member of the profession to decide whether he will live up to the standard set."

Now we all understand that microorganisms which invade the human system, with the exception of venereal diseases, must enter thru the mouth, nose or a break in the skin. Having gained entrance, they must have a place of and a period of incubation before they multiply sufficiently to produce disease.

Where but in the unclean human mouth do such ideal conditions for germ development normally exist? Here they find food, moisture, darkness and a temperature exactly to their liking.

We find, therefore, that a very considerable proportion of general infections, as well as chronic diseases, has been shown to originate in the mouth; that bad mouth conditions weaken the local resistance of the entire digestive tract; that they reduce general bodily resistance to infection, and that a large portion of the chronic diseases originate, directly or indirectly, from mouth conditions.

Differential Diagnosis of Tuberculosis and Syphilis.—Zbinden, in a recent issue of the *Ohio State Medical Journal*, states that the distinction between tuberculosis and syphilis is a daily problem for every physician and often presents great difficulties. The two diseases are remarkably similar as to pathology and clinical course. Syphilis produces milder symptoms than tuberculosis, but it is also more treacherous. It is rarely attended by fever, whereas the opposite is true of tuberculosis. Syphilis may destroy large portions of the body, yet often heals completely with the formation of large scars. Extensive tuberculosis is rarely arrested, unless surgical removal is possible. Physical examination alone is not reliable. Examination for the tubercle bacillus is applicable in possibly one-half the cases and is conclusive in less than one-fourth. The

skin tuberculin reactions are of value, but are conclusive only in the very young. In people past fifteen they are valuable only in 10 per cent. of cases. The hypodermic test is difficult and dangerous, yet very accurate. The Wassermann reaction is really a necessity for proper diagnosis, but discloses only two-thirds of the cases having syphilis. Roentgen-ray examination is of great value in the hands of an expert; it explains the phenomena observed by physical diagnosis, but gives much more information of value. The therapeutic test has decided limitations.



The Proper Treatment of Ivy and Sumac Poisoning.—Every year, says the *Michigan Food and Drug Monthly*, there are hundreds of people who suffer from a severe and uncomfortable dermatitis or eczema due to poison ivy. Poison ivy is also called poison oak. Sumac goes under various names in different localities, such as poison dogwood, poison elder, poison oak, thunderwood, and poison wood.

The poison ivy is widely distributed thruout the United States and may be recognized by aerial rootlets and the variable number of leaves to the stalk. The harmless Virginia Creeper resembles poison ivy, but has only three to five leaves to the stalk and has numerous tendrils like the grape vine.

Sumac grows in moist ground—usually in swamps or along the low banks of streams. It is readily distinguished from the harmless sumac by its location and by its leaves, which divide into seven or thirteen leaflets.

Some people are not so susceptible to these plant poisons as others, but it is best to avoid contact with them as it is very doubtful that immunity is absolute.

There is no specific treatment for poisoning from ivy or sumac, according to recent investigations. The various popular remedies and prescriptions are of little value. Ointments should not be used in the acute stage of the disease, but may give relief in the later stages by allaying the irritation. Sugar of lead, formerly much used, often proves disappointing if applied after the development of inflammation and the user runs the risk of lead poisoning.

One of the best methods of minimizing or preventing infection after the hands, face or other parts of the body have been exposed is to wash and rinse them repeatedly with kitchen soap and hot water. The poison requires some time to penetrate the skin, and if this can be prevented by washing, an eruption and irritation will not result. It is worth while to do

this up to twenty hours after the exposure, tho it is better to wash immediately. Use small pieces of gauze or cloth and burn each to prevent spreading the poison by the cloth. Work up a heavy lather and wash several times.

Bathing with alcohol diluted with an equal amount of water is also efficacious as a preventive after contact. Care should be used in bathing to change the water frequently to prevent spreading the poison. If the contact has been general, a general bath should be taken. The hair should not be neglected. If the poisonous plants must be handled, use rubber gloves and be careful not to allow any part of the plant to come in contact with the skin, or clothing, as the poisonous substance may be deposited on the skin from contaminated clothing.

The Treatment of Chronic Intestinal Stasis.—The first attempts to overcome chronic intestinal stasis should be in the direction of hygiene, physical culture and opotherapy, according to an editorial writer in the *New York Medical Journal* (May 18, 1921). In the less complex cases of this process the cause is mere disturbance of peristalsis resulting from spasm or paralysis of certain segments of the intestine, disturbances in all probability due to insufficiency of certain intestinal glands, permanent bends which are kept up by cicatricial bands due to chronic inflammation of the intestines and still more to the phenomena of organic defence which struggles against the weight and tendency to ptosis. It is certain that medical treatment is applicable to the early phase of chronic stasis and that it can be cured at this time, but the same cannot be said when the affection has gone a step farther. Consequently, the treatment should at first be medical, but before attempting treatment, every patient suspected of chronic stasis should be sent to a competent radiologist, who will be able to give data as to the delay in the emptying of the contents of the stomach, duodenum and ileum, and the duration of the transit of bismuth thru the large bowel. For this radiologic diagnosis a single radiogram is not enough, but a series of four or five should be taken at intervals of from twelve to twenty-four hours. Gastric ulcer and lesions of the intestine that can be caused by chronic stasis must also be looked for and finally the thorax should be inspected to ascertain if there are any evidences of tuberculosis, adenopathy or changes in the large vessels.

Medical treatment comprises abdominal and general massage, physical culture, diet, the ingestion of small doses of paraffine at the beginning of meals, thyroid and hypophyseal opotherapy. Vaccinotherapy has also been advised. When these measures fail, when intestinal bends have formed that cannot be reduced, operative treatment becomes necessary. Surgical procedures for intestinal stasis vary in importance, from simple division of constricting bands to colectomy or short circuiting. Of

the minor procedures are division of fibrous bands which keep the intestine bent, fixation of the intestine, folding the gut, etc. The results are often good, or at least appreciable in the simpler cases.

The major procedures for this affection are short circuiting and colectomy. The latter operation is either complete or partial and can be done in one or in two stages. By colectomy in two stages is meant first an ileosigmoidostomy followed several months later by excision of the large intestine. By right hemicolectomy is meant the removal of the cecum, ascending colon and a portion of the transverse colon and by the term short circuiting is meant simple ileosigmoidostomy by inflation with sutures or intestinal buttons. Briefly, if the operative indications are thoroly understood and if the operation selected is the proper one for the given case, the surgical treatment is both efficacious and devoid of risk. Once the operation is done the patient should be submitted to general medical treatment, diet, massage, physical culture and psychotherapy. Patience is necessary because, altho cure or considerable improvement is the rule, the organs having undergone a change from chronic intoxication require time to recuperate.

The Treatment of Gall-Stone Colic.—The treatment is both medical and surgical according to Einhorn in his interesting and practical article in the *Medical Record* (April 2, 1921). The medical treatment has for its purpose the relief of the suffering and, if possible, the elimination of the offending agent. In some instances, when the stone is small, this is feasible. Drinking of large amounts of water, leading a hygienic life, frequent eating, and drinking of some saline aperient water are all favorable for this purpose. In biliary colic of a severe character, the pain is best subdued by a hypodermic of morphine in conjunction with atropine. During and following the attack, rest in bed is essential.

If the attacks are frequent and perhaps accompanied by fever and a high leucocytosis with an increase of polynuclears, operation for the removal of the stones should be considered. Jaundice, which has developed after a biliary colic and has not subsided after a period of three to five weeks—showing that the common duct is occluded—is another indication for operative intervention. Operation is also indicated when an empyema of the gall-bladder is manifested by chills, high leucocytosis, and pain, and a perforation is suspected—sudden cramps, rigidity of the abdominal walls, etc. In the latter case, the sooner the operation is done, the better.

While Einhorn is not of the opinion that all gall-stones require operation, he does recommend, in case the abdominal cavity is opened on account of some other condition, if gall-stones are known to exist or are discovered at the operation, they should be removed as a prophylactic measure, even if the patient has not presented symptoms from them.

It goes without saying that severe heart or kidney troubles, old age, and jaundice of very long standing, are in themselves contraindications to operation, on account of the great danger to which the patients are exposed under such circumstances. The gravity of the disease will help to decide whether or not operation should be undertaken.

Use of Glucose to Prevent Acidosis Following Operation.—Farrar (*Surgery, Gynecology and Obstetrics*, April, 1921) has found that a solution of glucose given intravenously during an operation at the rate of 0.8 gm. glucose for every kilogram of body weight each hour of the operation will lessen the acidosis incident to operation by promoting metabolism, prevent or diminish the vomiting, and promote diuresis. A solution of gum acacia (6 per cent.) in glucose (20 per cent.) if given at a subtolerant rate the entire time of operation is an aid to the maintenance of blood pressure. Carbohydrate feeding before and after the operation, together with the use of sodium bicarbonate, will do much to prevent or lessen acidosis. Farrar suggests that every well-equipped hospital laboratory should have a paid physiologist who could devote his time to the study of problems on the living tissue as the pathologist does on the specimens removed. The study should cover organic regulation as a whole and not individual cells or tissues. Biology would not then be divided into its branches, but would comprise a study not only of anatomy and pathology, but physiology and biologic pharmacology as well. The problems should be of practical import, of like value to patient and surgeon. The student should have made known to him the facts of general metabolism and their relation and importance to surgery. This important knowledge should not be isolated and scattered, but grouped and given as a part of student work preparatory to surgical training.

Surgical Importance of the Influence of the Spleen on Blood Coagulation.—Jurasz (*Zentralblatt für Chirurgie*, July 3, 1920) refers to Stephan's finding that by irradiation of the spleen with Roentgen rays the coagulation time of the blood can be materially shortened and the quantity of coagulative ferment in the blood serum considerably increased. He thinks there are indications that the spleen may be regarded as the central organ with respect to the blood coagulation process. Stephan's discovery opens up far-reaching vistas in practical surgery, not only from a therapeutic standpoint, but also as a prophylactic means of reducing bleeding during and after operations. Irradiation of the spleen may prove effective in checking hemorrhage and saving a patient even when blood transfusion used as a last resort, has failed. Before undertaking prophylactic irradiation, Jurasz recommends that the coagulation time of the pa

tient's blood be determined by Stephan's modification of the Fonio method, by which 20 drops of blood are put in a watch crystal, which is transferred to a covered Petri dish. By tipping the dish from time to time the exact moment when coagulation is completed is determined. This coagulation time is then compared with the normal time, which must be determined for each individual laboratory. In Jurasz's laboratory, normal time was from twenty-eight to thirty-two minutes. If the coagulation time of the patient is retarded by as much as four or five minutes, it always indicates some disturbance of the coagulation process, and points to the danger of serious hemorrhage during or following operation. In this case, irradiation of the spleen must by all means precede surgical intervention. As to just how long before the operation this irradiation should be given is an important point. Jurasz's experience thus far points to from fifteen to twenty hours preceding the operation as the most favorable time.

Senile Pruritis.—M. W. Thewlis, writing in the *Medical Review of Reviews* (Dec., 1920), very properly points out that many cases of pruritis ani are due to improper care of the anus. A man may wash his face twice a day, but not wash his anal region oftener than once a week. Again, many of the toilet papers used are irritating to a tender skin. There is an excessive perspiration in this part in many people, and the excretions are often of an irritating nature. Often proper hygienic care of these parts, i. e., washing twice a day with cold cream soap and applying unguentum quæ rosæ after each cleansing, the use of high grade, soft paper after defecation, will cure the condition. In very obstinate cases, borium may be applied externally, and radium applications may help a great deal.

Pruritis vulvæ will often be relieved by douches of the following powder in solution:

Phenolis	3j
Eucalyptolis	3ss
Olei menthæ Piperitæ	3j
Aluminis	3iv
Acidi Borici	3xvj
M. ft. Pulv.	

Sig.: One or two teaspoonfuls in a quart of hot water as a douche twice a day.

This is very soothing and cooling, and most women find it a great comfort. The douches must be taken in a reclining position; as the average woman uses a douche in a sitting position it is valueless. If there is much inflammation on the outside, the following ointment may be applied to the vulvulæ:

Mentholis	gr. v
Unguenti Aquæ Rosæ	3j
M. ft. ung.	

The powder described above is useful where an inexpensive, effective lotion is necessary for general use on the body. It may be used in various dilutions, and can be applied to the body with a soft sponge.

Recently I have been using a solution of the higher phenolic ethers, aromatic bodies and esters, with excellent results. One part by weight of this preparation has the same antiseptic value as forty parts of pure phenol. It is not irritating and is very stimulating to the tissues. When applied to the skin its anesthetic action will be manifest in two minutes, and when applied once a day for several days it will often improve the condition. When the disease is widespread I employ the phenolic ethers and essential oils in a 10 per cent. alcoholic solution. The effect lasts for several hours, and may be fortified if the following ointment is used with it:

Mentholis	gr. xx
Phenolis	M v
Camphoræ	gr. x
Petrolati	3ij

I have seen cases so severe as to require a patient to sit in a bath tub for relief, and in these cases a bran bath is often useful. Unguentum diachylon compound can be used as an ointment to cover larger surfaces. It is often necessary to prescribe large doses of bromides internally to relieve the suffering, but opiates usually aggravate the trouble. In some cases a 2 per cent. solution of chloral hydrate used externally will relieve the itching. Chloral has a marked antiseptic and anesthetic action on the skin.

In France, the hydrotherapeutic treatments at Neris, Plombières, Uriage, Luchon and Cauterets are of value. In very rebellious cases it is necessary to resort to radium-therapy.

Care must be exercised in radiumtherapy; radium should be applied for a short time and a reaction awaited. A flat applicator of 10 mg. of radium element should be used, screened only with rubber dam, and it should be held over one area for ten or fifteen minutes. The entire area which is affected should be covered in this manner, but a second radiation should not be given until the result of the first treatment is known.

If the symptoms have not subsided in three or four weeks, a longer application should be given in the same manner, but it would not be well to employ the radium longer than twenty minutes in any area. In employing radium around the anal or scrotal regions we must not expect the reaction to be immediate; in some cases it will occur several weeks after the treatment.

Treatment of Addiction Disease.—Burns, in his extremely valuable article in the *New York Med. Jour.* (Jan. 29, 1921), gives a comprehensive report of his work as Federal physician for the southern district of Ohio, in which capacity he has devoted a great deal of time to the medical handling of drug addiction disease patients, arrested in this district by narcotic officials. The series includes eighty-four males and nine females, a total of ninety-three. From his observations he draws the following conclusions: 1. Lipoidal substances gradually reduce the craving. 2. During the treatment

with lipoidal substances the patient does not suffer the tortures experienced during the reduction treatment. 3. All the by-symptoms of drug addiction disease (respiration, heart action, constipation) are rendered normal during the treatment with lipoidal substance. 4. In patients once clinically recovered under the influence of lipoidal substances there develops a well-defined contempt toward alkaloids. 5. Patients with pathologic changes not due to the influence of alkaloids will go back to the use of narcotics. 6. Patients who suffer solely from the ill effects of alkaloids will remain normal, once the treatment comes to a successful conclusion. 7. Lipoidal substances are administered hypodermically with no ill effects whatever.

NEWS NOTES AND ANNOUNCEMENTS

Fracture Number of the American Journal of Surgery.—The May number of this progressive publication is devoted exclusively to fractures and the following papers by recognized authorities appear therein:

"Fracture of Tibia-end-results and Ambulant Treatment"—Dr. John J. Moorhead, New York City.

"Treatment of Fractures of the Humerus"—Dr. Joseph Blake, New York.

"Treatment of Fractures at and About the Ankle"—Dr. Frederic J. Cotton, Boston, Mass.

"The Cerebral Symptoms and Operative Indications in Skull Fractures"—Dr. William Sharpe, New York City.

"Latent Symptoms from Unrecognized Fractures of the Vertebrae"—Dr. Norman Sharpe, New York City.

"Fractures of Fingers and Toes"—Dr. Harry E. Mock, Chicago, Ill.

"Early and Complete Immobilization as a Factor in the Preservation of Joint Function in the Treatment of Fractures"—Dr. H. Winnett Orr, Lincoln, Neb.

"Intertrochanteric Fractures of the Femur"—Dr. Kellogg Speed, Chicago, Ill.

"Bedside Radiography in Fractures"—Dr. I. Seth Hirsch, New York.

"Fractures at the Head of the Radius"—Dr. James Morley Hitzrot, New York.

"Traction—Suspension—Apparatus"—Dr. Henry H. M. Lyle, New York.

"Pott's Fracture of the Leg"—Dr. W. L. Estes, So. Bethlehem, Pa.

American Medical Editors' Association.—The 52nd annual meeting of the American Medical Editors' Association will be held at the Hotel Lenox, Boston, Mass., on Monday and Tuesday, June 6 and 7, under the presidency of Dr. H. S. Baketel, editor of the *Medical Times*.

A novel feature of the literary program will be introduced this year in the shape of symposia, which will be discussed by various members. The subjects will be: "Group Practice and the Diagnostic Clinic." "What Should be the Attitude of the Profession Toward Health Centers?" "The Correlation Between Editorial Advertising and Subscription Work."

Every doctor, even remotely interested in medical journalism, will find it to his advantage to attend, and is most cordially invited.

Modern Medicine Becomes the Nation's Health.—With the May issue the name of this magazine will be changed from *Modern Medicine* to the *Nation's Health*. This is being done to make the title more clearly descriptive of the present scope and the new and greatly enlarged service of the magazine in health promotion and conservation.

The change is one which has been under consideration for some time. It is the final step in the development of a magazine which we confidently expect will be of distinctive service to those who are in positions of responsibility for the nation's greatest asset, the health of its citizens.

The change of name and the broadening of its field of endeavor complete the transformation of the *Interstate Medical Journal*, the predecessor of *Modern Medicine*, from a publication devoted to clinical medicine, to a health magazine of broad national service—a magazine devoted to community, industrial and institutional health problems.

The *Nation's Health* will continue the features which have proved most interesting and serviceable to the readers of *Modern Medicine*, but will cover the subjects treated more completely and in addition inaugurate other features which are important in the new and wider field.

In Honor of Mme. Curie.—The June issue of the *Medical Review of Reviews* will be a special radium number dedicated to Mme. Curie. The issue will consist exclusively of articles on radium and its uses, written by the most prominent radiologists in the United States and Canada.

Copies will be sent complimentary to every physician interested in the uses of radium and any readers of this item who desire that issue may have it by asking for it from the *Medical Review of Reviews*, 51 East 59th St., New York.

A Great But Preventable Economic Waste.—The *Boston Medical and Surgical Journal*, March 31, 1921, published an article on "The Rat in Health and Economics." On an estimate of one rat to one human being, the population is over 100,000,000. It costs about two cents a day to feed a rat; that is, about \$2,000,000 a day, or \$730,000,000 a year, as from the damage done to the distribution of property.

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

Educating Physicians.—In an interesting discussion on Medical Education, by E. A. Vander Veer, *New York State Journal of Medicine*, May, 1921, appears a plea for a reduction in the educational standards of physicians. There is a strong advocacy of doing away with the requirement of two years' study in the College of Arts as a pre-requisite for entering into medical school. It is unfortunate that at this time anyone should favor lowering the educational qualifications of physicians. Under the present conditions of medicine it is doubtful whether a graduate of a preparatory school, even after some reenforcement of the curriculum in the direction of physics and biology, is fully able to direct his attention to the serious work of studying medicine. When it is realized that there is an increasing number of graduates from high schools at the age of sixteen, seventeen and eighteen years, it becomes all the more questionable whether such youthful minds are adequately prepared to enter medical colleges.

It is granted that under our existing educational organization a long period of life is devoted to preliminary education as the foundation for professional studies. The antidote does not consist, however, in decreasing the intellectual pabulum but rather lies in the direction of increasing the facility with which individuals may pursue studies deemed essential for the develop-

ment of the facts, processes and ideals requisite for functioning in normal communities. There is little doubt of the fact that the type of mind best fitted for medical practice could easily complete the work of elementary and preparatory schools in nine or ten years in place of the eleven or twelve years now required. It is because of this very fact that we find an increase in the number of youthful graduates of preparatory schools in colleges. More and more parents are enabling their offsprings to proceed at a gait commensurate with their intellectual powers, thus fitting them to enter colleges at the ages of fifteen, sixteen and seventeen years. Instead of removing the requirement of two years' collegiate work as a pre-requisite for matriculation at medical school, greater benefits would arise from correcting the rigidity of school curricula and their maladjustment to the needs of those preparing themselves for a professional life.

The gain of two years in preliminary education would bring about all the time-saving necessary to protect the public against a return to a form of medical education which would reduce the number of thoroly educated physicians. It is doubtful, however, whether the deficiency in the number of physicians in this country, particularly in rural sections, is due to the fact that prolonged study is required. There is more reason to believe that the

elaboration of studies and the growth of specialism has stimulated the ambitious physician to seek opportunities of practicing in communities that will give the largest outlet for their high form of training. If elements of remuneration are determining factors, the answer is not to be found in increasing the number of poorly trained physicians. As a matter of fact, the outlying districts and suburbs, the hamlets and farmlands, the villages and rural districts require more capable and all-around physicians than are needed in densely populated communities where there is an adequate supply of hospitals, clinics, specialists, trained nurses, and social agencies.

Any plan, which purports to make more provision for rural practitioners, that is based upon lowering educational standards is open to grave question. If the failure of country districts to possess a sufficient number of physicians is actually due to a lack of the prospect of lucrative fees, then some system to meet this situation must be devised, such as has already been begun in some sections of the West where rural communities have sought to subsidize their physicians. Rural communities must possess highly trained, well educated, substantial, and intelligent practitioners.

Part of the motivation of the author's suggestion is shown in the following statement: "I believe that half the agitation today for public health insurance, public health centers, public diagnostic clinics, is due to the lack of good old-fashioned physicians or country doctors, and this agitation will never be stopped until we have some reform in our medical education by which it can be made, not easier, but more advantageous in the saving of time and money to enter the medical profession. People seem to die in about the same regularity and with the same diseases as they always did before the present form of medical education went into effect. The mortality rate

today may, as a whole, be decreased somewhat, due I am told in a large measure to the decrease in the infant mortality rate. If they grow up to be weaklings and a charge on the state, then from a purely economic proposition, to say nothing from a humanitarian point of view, there is room for argument on the subject. Nature's law, the survival of the fittest, still holds good."

The agitation referred to will never be stopped by a reform in medical education which will endeavor to fashion a physician of low culture or of decreased educational training. The saving in time must be secured in the elementary and preparatory schools. As far as the saving of money is concerned, this question has been answered during the past generation by the demand of the public for higher standards of education and the increasing opportunities for securing collegiate instruction on a scholarship basis, or at low cost at state universities. In the general scheme of things, the most to the individual is of secondary consideration compared with the general costs that are involved for the public.

It is interesting to note the attitude displayed towards the results of decreasing the infant mortality rate. If the law of the survival of the fittest still obtains, one may say from a humanitarian point of view that the medical profession is doing its part to assist nature. The decrease in infant mortality thus far has not been shown to increase charges on the State, in so far as statistical data are concerned.

With reference to the statement concerning the mortality rate, it may be said that people will always die, but the degree of irregularity of all specific diseases will be altered at varying age periods. The saving in infant deaths has undoubtedly affected a decrease in the general death rate from 17.6 in 1900 to 14 in 1917. It is interesting to note, however, that while deaths under

one year constituted 20.7% of all the deaths in 1900, this rate fell to 16% in 1917, while the deaths under 5 years during the same period of time dropped from 30.4% to 22.8% in 1917. Incidentally, it may be noted that the mortality rate from typhoid fever, taking its highest mortalities between the ages of 15 and 30 years, dropped from 35.9% in 1900 to 13.4% in 1917, while tuberculosis, taking its toll during the active period of life from 15 years to 65 years, fell from 201.9% in 1900 to 146.4% in 1917. On the other hand, cancer, cerebral hemorrhages, apoplexy, diseases of the heart and kidneys, taking their highest mortalities beyond the age of 30, have been gradually increasing their mortality rates. Furthermore, owing to the development of diagnostic refinements, from an actual study of diseases, it may be said that people are not dying with the same diseases as they did a decade ago. One may ask what has become of inflammation of the bowels; where is cholera infantum; or what did previous generations know of lethargic encephalitis and ankylostomiasis; or diseases of the pancreas?

Times change, and with them the forms of effective knowledge and standards of education. Fortunately, the slogan of the public today is more education. The medical profession cannot countenance any backward step. There must be no reduction in the educational bases and requisites for intelligent, substantial, and scientific medical practice. Medicine may be far from an exact science in its totality, but the stressed certainties of its art are based upon exactness in theorizing, in research, in pathologic studies, and in therapeutic application. It is this ever seeking after scientific certainty that establishes the medical profession on a plane far above that of the

"irregulars and fakirs" and the followers of unscientific cults.

Child Labor.—Summer time is associated with visions of recreation for the child population. In the olden days, when life was mainly agricultural and children were regarded as farm hands, the major time of the children in farming communities was spent in application to the task of wresting large crops from the soil. At the present time there has grown to be a vital distinction between children's work, that benefits their minds and bodies, and child labor which saps vitality and dwarfs physical and mental growth.

Approximately three-fourths of the child workers in this country are working on farms. Even those most interested in agricultural welfare cannot defend the regular employment of children under fourteen years of age, subject to the irregularities and hazards of work on the farm, or in the cotton and beet fields, any more than manufacturers can establish their right to employ similar children in their mills or factories. There is no excuse for putting a child at a man's work. The exploitation of children is contrary to every decent standard of child welfare. Industries should be able to succeed by utilizing the power available in the form of men and women, who, at least, have attained most of their physical growth and have had the opportunities for a rational type of education.

Minimum wage standards may be of service in the economic world, but minimum conditions should not obtain commendation when viewed in relation to human welfare. The general recognition which has been given to the short-comings of soldiers should serve to emphasize the

importance of a more civilized attitude towards childhood.

In as much as child welfare is an important phase of medico-social work, it is of paramount importance that physicians appreciate existent conditions militating against the effective development of the youthful population.

The provisions for children in the United States are essentially inadequate. The average attendance of children at school in the United States is only 90 days a year. This is a partial explanation, at least, of the fact that approximately 25% of the men examined in the first draft were illiterate, and of the illiterates in the United States 28% are native whites. Approximately 75% of our 22,000,000 school children are physically defective. Under these circumstances there should be mobilized the strongest public opinion against every industrial procedure which deprives childhood of its educational advantages, interferes with the correction of physical handicaps, or tends to the physical deterioration of growing population by reason of the inherent hazards of industry.

Tremendous steps have been taken to safeguard the health and wealth of employees as part of the program of industrial hygiene. In so far as the youthful portion of the population is concerned, only one step is necessary—and that is the abolition of child labor. Opportunity for normal growth and development, for education, for recreation, for living the life of a child, constitutes communal responsibility. The problems of truancy, illiteracy, juvenile delinquency, physical impairment, and mental hygiene are by no means far removed from the question of child labor and vocational adjustment.

Knowledge concerning the effect of bor-

rowing child life to support industry is not lacking. Its harmfulness to youth is acknowledged. Its menace to the child's health and morals is admitted. Despite an ample supply of definite facts concerning child exploitation, the United States has lagged far behind in its effort to secure its abolition. The Federal Tax Law practically affects only 15% of all working children. The other 85% merit the same protection that has been granted to those working in factories, mines and quarries.

The few men who have achieved world success, despite the handicaps of exploitation in early childhood, are not to be considered typical results of this system any more than the occasional patient suffering from cancer who has been cured by radium treatments serves as the basis of judgment as to the malignancy of the disease. Child labor is an insidious and dangerous growth upon the body politic and its cure consists in its complete elimination. Its prevention lies in its eradication.

The Tonsil and Adenoid Problem.

The existence of hypertrophied tonsils and adenoids in the United States has created a problem that is severely taxing the resources of hospitals and dispensaries. Medical examination of school children indicates that about 15% of school children require care for the elimination of these defects. The Public Health Committee of the New York Academy of Medicine, in its report upon the Tonsil and Adenoid Situation in New York City, *Medical Record*, May 1, 1921, states that parents are generally willing to have the necessary operation performed, but that there appears to be complaint that existing facilities are insufficient to meet the demand.

In as much as it is generally recognized that all operations on the tonsils and adenoids should be done under general anesthesia and that these operations preferably should be performed in a hospital where the patients may remain for a certain length of time after the operation, it is evident that the rate of progress in meeting the general situation must depend upon a careful distribution of the prospective patients. This is essential in order to eliminate an undesirable and unsatisfactory waiting period. Long waiting lists of several hundred are discouraging, disappointing, and lead, in many instances, to a changed interest in the importance of an operation, after nurses and physicians have emphasized its necessity and the promptness with which the operation should be performed.

The New York investigation would probably be duplicated in other communities. Therefore it is advisable to recognize that the situation demands a full utilization of existing facilities, with some regulatory system to secure a more uniform distribution of the young patients among the hospitals.

The Public Health Committee recommends "that the rules governing the care and treatment of tonsil cases, before and after operation, be standardized in accordance with the best recognized experience." Of still greater practical worth is the recognition that hospitals devise some system whereby "the children most needing the operation should receive preference over less urgent ones, irrespective of whether these cases are able to pay or not."

Among the recommendations that will undoubtedly cause much discussion are the two following: "that recognition be made of the large relative expense associated with tonsil and adenoid operations, and that

the city be urged to make adequate payments to the hospitals for the care and treatment of cases unable to pay; that the surgeons in hospitals who perform operations as a routine should be compensated for their work." The final suggestion deserves careful consideration at this time, namely, "that hospitals should allow during the summer months the use of beds outside of the nose and throat wards for tonsil and adenoid cases, provided other demands upon the hospital are not more pressing."

There is every reason to believe that by carrying out some plan similar to the one recommended it may be possible for communities to keep pace with the needs for tonsil and adenoid operations. The mere detection of the defect and handicap forms but one step in the process of eradication. The success of follow-up work and the achievement of remedial care depend largely upon the prompt availability of the requisite agencies to safeguard the health and welfare of the children before, during and immediately after performing the tonsillectomies.

In the matter of community care of children, there are few procedures actually demanding surgical intervention. Therefore, particular thought must be devoted to such a common physical defect as hypertrophied tonsils and adenoids.

Midwives.—Periodically the question of midwives arises and disturbs the general complacency of communities with reference to obstetric service. Obstetricians and physicians in general who are interested in the care of potential mothers appear to possess a traditional opposition to what they term "dirty midwifery." There is an implication, of course, that the mid-

wives are essentially damaging to the welfare of those whom they attend. Studies, however, of the midwife problem almost uniformly have resulted in their vindication of midwives. This fact is particularly noticeable where a rational policy of instruction, supervision, and control has taken the place of unfavorable tradition, vigorous prejudice, and unwillingness to acknowledge the necessity of adaptation to existent socio-economic conditions.

In the *Weekly Bulletin* of the Department of Health of the City of New York, May 14, 1921, appears a brief résumé of the results of the Supervision of Midwives in New York City. From this we learn that during 1920, 1,517 registered midwives attended 36,369 births, or 26.60 % of the total births registered in the city. From the figures adduced, it is obvious that there is not an increase in the number of midwives, but there is an improvement in the training and standards of midwifery practiced by them, altho the total percental number of births they attend appears to be a slowly decreasing quantity.

As a result of instruction, licensure, and periodic follow-up work the character and standards of the New York midwife have been markedly raised. The midwives, who attend, for the most part, women of foreign origin, from alien countries where custom and tradition have given rise to the government training of midwives and their more or less general employment, have shown themselves to be of considerable value in the protection of maternity and infancy. They supply a demand for obstetric care which cannot be met by institutional or out-door maternity service, nor indeed by private practitioners who are unwilling to perform obstetric service at a rate within the financial ability of the poorer families.

Furthermore, the midwife attends the mother in the home and, in addition to the definite care at labor, offers nursing care during the puerperium to mother and child, and she adds thereto much personal service that in wealthier families would be given by cooks, chamber-maids, nurse girls, and laundresses. Thus the midwife is entrenched behind a variety of service which cannot be met by private physicians, despite the fact that they command a higher fee.

Those who complain of the criminality of the ignorant, of unsupervised midwives must recognize that a similar tendency is marked in some types of conscienceless, law-breaking physicians whose greed does not recognize the forms of any law.

In so far as opinions concerning competency are concerned, it must be acknowledged that under the regulations provided for the practice of midwives their records compare most favorably with the routine obstetric practice in large or small communities. To quote from the report of the New York City Department of Health "in the prevention of suppurative eye conditions, in maternal mortality from sepsis, and other conditions incident to pregnancy, in the number of stillbirths, in the number of deaths during the first month of life, and in the prompt reporting of births and stillbirths, the midwife, in proportion to the number of mothers delivered by her, stands on the credit side of the ledger as compared with physicians in the city."

In the efforts to decrease maternal and infant morbidity and mortality, great advantage obtains thru securing the cooperation of the midwife, educating her to the limitations of her vocation, and increasing her efficiency by counsel, advice, and supervision. One cannot raise the standards of any group of workers in the community by

a constant course of condemnation. Personal abuse is not an adequate substitute for personal elevation. Captious criticism does not accomplish as much as constructive counsel. Denying the benefits of training and licensure together with supervision, does not offset the benefits to be derived from an organized effort to enlist their confidence and give them a respectable standing in the community.

In congested communities with large populations of alien extraction, the midwife exists as an institution which not merely demands but merits rational consideration. For purposes of public health service in rural sections capable midwives would be of immense advantage under a proper system of education, licensure, and control. This is particularly true in view of the inadequacies of hospital facilities in many sections of every state of the Union. The mere fact that physicians desire to perform all obstetric service is not a sufficient reason for denying that a place exists for the well-trained, honest, conscientious, and cooperative midwife.

Psychopathology.—There was a peculiar significance in the Eleventh Annual Meeting of the American Psycho-pathological Association held at Atlantic City, June 11th, in that it evidenced a distinct advance in the development of American independence from the dictatorship of continental psychologists. As the meeting was the first since the World War, it was interesting to note a reasonable uniformity of belief that the sex instinct is inadequate to account for all manifestations of psychopathology, as claimed by the group committed to Freudian philosophy. In the "Symposium on the Relative Rôles in Psychopathology of the

Ego, Herd, and Sex Instincts" there was opened up a wide field for investigation, correlation, and contemplation. The breadth of the discussion demonstrated that the American group was undergoing a stress that gave some portent of approaching agreement upon fundamental principles of approach.

The determination of the exact nature of instincts remains a matter of the future. It is unimportant, at this time, to agree upon the essential interplay of basic instincts, or indeed to arrive at a final decision as to their number or diverse origins. The fact that the American group of psychopathologists has agreed upon the inadequacy of the Freudian psychology to account for all the problems with which they are dealing is fraught with a richer meaning, as it opens the way to freer investigation and evidences a larger degree of open-mindedness.

The advances that have been made thru the biologic and social approaches bear witness to the benefits that accrue from investigating psychopathology from many angles. The supine acceptance of a single theory bars the way to real progress. To rest content with any single track system of philosophy is to deny the need of further study. It is only by questioning with a reasonable degree of scepticism that eventually progress develops. The complete domination of psychopathology by the Freudian concept is now probably at an end; and it is safe to assume that the contributions of the American school will be of inestimable benefit.

Unfortunately, the interpretation of psychologic phenomena depends upon the personal psychology of the investigator except in so far as actions and reactions may be checked by physiologic, biologic, or

chemical methods. The thralldom or mental bias of a psychologist is an adverse factor to exactness at all times, but there is a universal hazard to scientific conclusions when the psychologist is conditioned by a surrender of independent thinking. There is renewed promise in the conscious awakening of psychopathologists that personality and life are more than a pornographic concentrate. This emancipation yields the necessary freedom for thought and investigation.

Indicanuria.—Indican is present in all urines and Dowd (*The Amer. Physician*) says it is due to the presence of microorganisms in the intestinal tract. When it is markedly increased, intestinal fermentation is relatively increased. A simple but fairly accurate test is: Place two or three drams of acid hydrochloric, c. p., in a conical glass, to which add 30 drops of urine, then 7 or 8 of nitric acid, c. p.; if indican is in excess the color may vary from purple to an almost black. Where an index may be practically normal, the best results are obtained from sodium salicylate in connection with caroid. If a low index is found, but very little result will be forthcoming until nerve energy is increased by the addition of nerve-cell nutrition.

Vaccination Against Yellow Fever.—The Rockefeller Institute for Medical Research announces the discovery by Dr. Hideyo Noguchi of a vaccine for yellow fever which will make it possible to immunize persons against this disease. Dr. Noguchi has also developed a serum which it is believed will reduce the mortality of yellow fever. Already vaccination against yellow fever of people going to tropical countries is being made in New York. This work is being done at the Broad Street Hospital with vaccine furnished by the Rockefeller Institute. The Central American countries are so well convinced of the efficacy of Dr. Noguchi's vaccine that they are permitting travel without quarantine detention of those who have been successfully vaccinated.



Problems of Narcotic Addiction.—

With all the agitation of the past few years on the subject of narcotic addiction, it is surprising that satisfactory means for meeting the situation have not been established. Every once in awhile a vigorous-minded individual, with unusual confidence in his own opinions and judgments, writes an article that unfortunately conveys the impression that he has a monopoly of intelligence upon the subject, and, therefore, that all disagreeing with him must be addicts, unscrupulous, dishonest, or perverted thinkers. One gets this feeling of irritation at the state of mind evidenced by A. C. Prentice, member of Committee on Narcotic Drugs, Council on Health and Public Instruction, American Medical Association, who discusses the Problem of the Narcotic Drug Addiction, in *The Journal of the American Medical Association*, June 4, 1921.

There is nothing in his article to indicate that he personally has had any particularly extensive first-hand experience with the problem of drug addiction. All his statements are seemingly based upon the writings and experiences of others, in the selection of which he has been extremely careful to omit such items as did not exactly fit his purposes. Some of his arguments have been based upon the observation of addicts under treatment and interviews with them; and he does not hesitate to quote at length the opinion of a political prisoner in a penitentiary who gives his testimony concerning the value of different methods of management of drug addicts.

It is interesting also to note that while he makes allowances for the general unreliability of statements of addicts when given to other inquirers, he is perfectly willing to accept considerable of their testimony when their statements are given to him and are in line with what he, himself, believes.

There is considerable difference between treating a narcotic addict and merely supplying him with drugs for the purpose of

continuing the addiction, but this is not evident in his final paragraph: "The conclusion, therefore, seems ineluctable that a physician who supplies narcotic drugs to an addict, knowing him to be an addict, or who connives with or condones such an act, is either grossly ignorant, or deliberately convicts himself as one of those who would exploit the miserable creatures of the addict world for sordid gain. It may be that he is himself addicted to the drug and has thus become a victim of its power to produce such profound moral perversion. For such there can be but one verdict: Suspend or revoke his license to practice medicine, by all means. Let him suffer the penalty of the law, and may God have mercy on his soul."

His state of mind is especially revealed by his dogmatic assertion that evidence has accumulated indicating a widespread and well-organized conspiracy has arisen and is in active operation thruout the country aiming to defeat the purpose of the Harrison law or to circumvent its requirements. It is significant that he adduces no evidence. Again he makes bold to state that "public opinion regarding the vice of drug addiction has been deliberately and consistently corrupted thru propaganda in both the medical and the lay press." He objects to the idea that narcotic addiction once established has the status of a disease and calls all beliefs of this character "shallow pretense." The prize assumption of 100% knowledge appears in his direct accusation of dishonesty as evidenced in the following statement: "Significant articles of sensational character dealing with narcotic addiction have appeared in the public press during recent months, denouncing the alleged 'persecution' of the addict and of his ministering angels, the narcotic practitioners, by local, state and federal authorities, (italics are ours), all of them characterized by a certain style indicating their probable emanation from a common source, and well calculated to create in their favor popular prejudice, in case their business or practice were called in question before some trial jury."

Incidentally, he enumerates certain journals as having found place for these so-called "fallacies." It is curious that the *Journal of the American Medical Association* is not included in the list, altho more of the things he regards as fallacious are to

be found in its pages during the discussions of the subject during the past few years than in the journals he mentions. This is probably due to the fact that his article appears in that journal. He directly states that the propaganda he condemns has been due to business interests and he dares to say this of such journals as the *American Journal of Public Health*, the *New York Times*, *Harvey's Weekly*, *The New Republic*, *The Medical Record*, and several others, including AMERICAN MEDICINE. The shaft of his dogmatic and arrogant opinion is turned aside by the standing of all these publications and their clean, public-spirited, and humane attitude on the general subject of drug addiction. All have been fair in presenting both sides of the problem and this can scarcely be termed propaganda. It is true that there may have been editorial opinions at variance with Dr. Prentice's solution of the problem, but it is apparent that his solution of the problem has not been generally accepted, for he says, "the remedy consists in abolishing the addicts' drug supply, *first* by prohibiting the prescribing or dispensing of these drugs to them by physicians, under severe penalty for such violation, and *secondly* thru vigorous enforcement of both federal and state laws dealing with narcotic abuse."

Concerning "script doctors" or those engaged in dishonest and reprehensible, he has expressed himself with proper force and in terms with which no honest practitioner will disapprove, but he does not strengthen his attack by hinting that the unscrupulous doctor is often addicted to the "dope". There is no defense for the physician who wilfully violates the Harrison law, altho we doubt very much if it has been possible for physicians in New York State to keep abreast of the variations in the New York State law. It is well known that there is an open question whether the present law can be enforced because of its unsoundness, its discriminating provisions, and its lack of effectiveness in controlling narcotic dispensation thru the use of certain dangerous and vicious proprietaries.

A Matter of Opinion.—Dr Prentice believes in the immediate and complete withdrawal of all narcotics from addicts; and he is entitled to voice his opinion. There are many equally capable and experienced physicians who disagree with him, and do not

believe such a method is necessary or compatible with the fundamental and human principles of medicine to avoid needless suffering and anguish; they are entitled to their beliefs, and we respect their opinions. We acknowledge the accuracy of his statements concerning the apparent success that has been obtained at various institutions, but he presents no statistics to indicate what proportion of these patients did not relapse six months or a year after this particular form of treatment. While he mentions the analytic study of nearly 8,000 cases of addiction that were registered and cared for during about ten months by the New York Department of Health, he fails to mention that the Department itself was supplying the drugs to three-quarters of the addicts at its clinic. Altho he does indicate that 1,580 addicts were given hospital treatment with prompt withdrawal of the drugs, and were kept under careful reconstruction training afterwards, "until able to be discharged in good physical condition and able to do an honest day's work," he admits that "within three months it was found that a large proportion of them had already relapsed to their old habits and associates, notwithstanding every effort made to assist them with moral support and friendly solicitude by every agency possible." This does not constitute much of an argument for hospital treatment, altho it must be admitted that in the light of our present knowledge of results from other methods of treatment, it does not serve as a more vigorous argument against it than can be adduced against other methods.

All honest men interested in public health surely desire to remedy the unhappy situation that has grown out of narcotic addiction. The solution is to be obtained only thru thoro-going, scientific investigation and approaching the problem in a broad, humanitarian and truly scientific spirit. We may believe, for example, that government monopoly of the opium traffic would suffice, but there are those who object that this would not be adequate because of the undoubted continuance of smuggling. Dr. Prentice believes that much would be attained thru prohibiting the prescribing or dispensing of these drugs by physicians, with severe penalties for such violations, and the vigorous enforcement of federal and state laws. Obviously, from Dr. Prentice's own statements there

are many druggists, peddlers and others who would not be embraced in the enforcement measures that he advocates. Some believe that narcotic addiction is only to be handled on the basis of hospitalization, while others point to the high percentage of relapses that follow discharge of patients from such hospitals, regarded as cured. There is not, obviously, any uniform belief concerning either the nature or the treatment of drug addiction. There are those who honestly believe it to be a disease, and those who equally honestly disbelieve that it partakes of this nature. And thus one might continue to present alternative positions on every phase of the questions honestly held and maintained.

When those who are most familiar with narcotic addiction are unable to agree concerning its cause, nature, and treatment, the opinions of surgeons, obstetricians, laboratory workers, and general practitioners may well be accepted with some degree of mental reservation.

The Crux of the Matter.—One thing is certain and that is, the problem of narcotic drug addiction is never going to be solved by attacks on the good faith and motives of those whose views on the subject happen to be different from our own. Dr. Prentice would be deeply affronted if anyone should profess to see hidden purposes of a pernicious character in his paper printed in the June 5th number of the *Journal of the A. M. A.*, issued just preceding this year's convention of the Association, and which was, therefore, the one distributed to those attending the meeting. Has he any right to claim greater purity of purpose, or more conscientious motives than, for example, the well-known medical men who have contributed the earnest comprehensive and authoritative papers on narcotic drug addiction that have recently appeared in *AMERICAN MEDICINE*? Dr. Prentice does not hesitate to express very positive opinions on the nature and treatment of drug addiction, which naturally implies that he has made a special study of the subject, and has had a large and extensive experience in the practical care of those thus afflicted. But can he claim greater experience, or the right to speak with greater authority than such medical men as Drs. R. S. Copeland, T. F. Blair, C. A. Pearson, C. E. Terry, M. W. Swords

and numerous others whose articles we have had the privilege of printing?

It is entirely right and proper for Dr. Prentice to discuss drug addiction as freely as he may care to, and to express any opinions his knowledge, experience and judgment may dictate. No honest doctor can fail to welcome any contribution from him, or any other reputable writer who honestly seeks to aid in solving the problem of drug addiction in any of its essential phases, medical, social or legal. But when a physician publicly attacks the efforts of his colleagues and can find in their work nothing but vicious propaganda, he lays himself open to pity for his myopic vision, or grave suspicion of his own intent.

We doubt if there is any fair-minded physician who will see in the earnest contributions on narcotic drug addiction in *AMERICAN MEDICINE*, the *Medical Record*, *Illinois Medical Journal*, *American Journal of Clinical Medicine* and the *American Journal of Public Health*, sensational propaganda, constant libeling of reputable members of the profession, and publicity for the business interest. We would not dignify this part of Dr. Prentice's paper by discussing it to the extent we have, but for the fact that the editors of *AMERICAN MEDICINE* have devoted a great deal of attention to narcotic drug addiction, in the belief that it is one of the most important questions before the medical profession, and we intend to allow no man to question the good faith, sincerity and absolute independence of very word that has appeared on the subject in this journal, without expressing as openly and forcefully as we know how, our resentment of any such ill-founded, unwarranted and obviously prejudiced attack.

The rest of Dr. Prentice's paper is interesting, and deserves the thoughtful consideration that should be given to every contribution to this all-important subject. We can agree with many of his views, but with much that he says, we are at variance. Since the author simply makes dogmatic statements and gives no evidence, he cannot complain if his readers cannot accept all of them but naturally prefer to adhere to opinions which their own experience or judgment seem to support.

The Need for Tolerance and Sympathy.—It is a matter for regret that Dr. Prentice did not write in a kindlier and

more tolerant spirit. Why is it so many men who write on narcotic drug addiction seem to think it necessary to take a hard, uncompromising and unsympathetic attitude? We can understand antagonism to the doctors who trade on the unfortunate condition of drug addicts, and are nothing but sellers of drugs. No punishment is too severe for physicians who thus prostitute their profession and no honest man can countenance them. But when it comes to the affliction itself, it will never lower our professional dignity, or betoken mental weakness, to have sympathy for those who have become addicted to the use of narcotic drugs. No matter what the cause, legitimate or due to vicious conditions, any decent doctor who has not lost the capacity to sympathize with suffering wherever he meets it, may very properly feel genuinely sorry for those who are so unfortunate as to suffer from drug addiction.

One fact that will stand out with especial prominence to not a few who read Dr. Prentice's article, is the necessity for a better and more definite understanding of many of the terms that are being used. There is evidently too great a tendency in most papers on drug addiction to generalization. For instance, it is high time that "ambulatory treatment," "institutionalization," "custodial care," "clinics," etc., were given specific definitions. "Ambulatory" treatment as condemned by some doctors, we are inclined to believe, is quite different from "ambulatory" treatment as understood by others. So in regard to other terms in common use.

As a matter of fact, the present wide diversity of opinion, the misunderstandings and ill feeling that have been so plainly manifested in many articles, as well as the chaotic state in which the whole proposition stands today, are all due to a very great degree, to this uncertainty, diverse understanding of terms, and unquestionably frequent misconception of what each person means in using various common expressions.

The Need for a Complete Investigation.—The more we consider the present situation in regard to drug addiction, the more firmly we become convinced that the problems presented by the use and abuse of narcotic drugs demand, as we have before stated, a thoro, comprehensive and open in-

vestigation by the national government. Such an investigation should take up every phase of the question. The therapeutic use of opiates should be studied, as suggested by the latest report of the A. M. A. Narcotic Committee, with the object of determining everything that it is possible to learn concerning the physiologic action of these drugs in the human body, the nature of addiction, the actual extent to which it exists in this country, its social, economic and legal aspects, etc., etc. With determination of the nature of the action and effects of narcotic drugs on the living organism, it will be possible to form definite conclusions in regard to combating successfully ill effects and consequences. Every person should be given a chance to be heard, and the claims and views of every one who takes part in the investigation should be carefully weighed. With the utmost openness surrounding the investigation we contemplate, not only the standing, experience and general qualifications of those whose opinions and views are presented and accepted can be ascertained, but if, as Dr. Prentice asserts, there are some working for "the business interest," it can be shown at once. Inasmuch as a new administration has placed a new Secretary and a new Commissioner, as heads of the Treasury and of the Internal Revenue Department, respectively, it is an especially auspicious time for an investigation of the narcotic drug problem. Until such an investigation has been conducted and completed, it is to be hoped that the new men who will henceforth be responsible for the administration of the Harrison Act, will not promulgate a new lot of regulations and rules, which, at the best, in the present uncertain state of our knowledge relative to narcotic drugs, can only be based on academic opinions which are controversial in character.

The self-respecting doctors of the country are following the narcotic laws and regulations of the Nation, and their respective states, with fidelity, loyalty and good faith. But in view of the indefinite and uncertain origin of many of these laws and regulations, is it too much to ask that any future statutes and rules be such as not only will accord with well-established facts, but will be of a character that the majority of the practitioners of the country can believe in, accept and respect?

Psychoanalysis in France.—Those who still stubbornly minimize the importance of the verities laid bare by Freud and Jung, revelations of the processes of the unconscious, emphasize the fact that France, a country quick to recognize anything new and important in the field of science, has failed to give the recognition to psychoanalysis which that philosophy has found in England and particularly in America. It is quite true that the Freudian theories have made little headway in France, both among the professionals and among the laity; but this failure is, oddly enough, an argument in their favor rather than against them. The moral history of France and the moral histories of England and our own country are very different and in this difference lies the secret of the dissimilar reaction. The French, as a people, are as nearly free from inhibition as a civilized people can be. The English and ourselves, the product of Puritan culture, with its manifold inhibitions and abnegations, have been driven to an inner, unsatisfied, little expressed life which finds no outlet except in the unconscious. It is a unique fact that the French, high-strung as they are, are, nevertheless, not nearly as neurotic a race as we or the English. The neuroses have never found so fertile a field among them as among ourselves. And the reason is quite obvious: they are free, or almost free, from the moral strain to which we are subject. Let us take a hypothetical, and somewhat frivolous, instance. An American, tired as he is, will rise in a crowded subway car and give his seat to a well-dressed young woman whose only exertion during the day has been dashing about in taxis from one smart shop to another. The man, knowing this, will, nevertheless, stand until he reaches his station at 202nd Street, silently cursing the woman to whom he surrendered his seat but obeying a standard of chivalry to which he is heir. Dog-tired, he will retire in the evening, fall asleep, and dream a beautiful, soul-satisfying dream in which he enters a crowded subway car, sees an unoccupied seat, discovers that a beautiful woman is making for it, knocks her down with a well-aimed blow, and captures the seat, luxuriously spreading his tired limbs and unfolding his favorite newspaper in preparation for a comfortable trip. In this way his uncon-

scious self, his real self (according to the psychoanalysts), finds complete expression of itself. But the Frenchman's satisfaction is not relegated to the unconscious—he has a more real satisfaction than that. In real life, he will knock a woman down to capture a subway seat and will retire at night to a dreamless, happy slumber. There is no complication about him. He has his satisfaction in his conscious state and his unconscious life is not crowded with unsatisfied wishes.

An American or an Englishman must satisfy his infantile, exhibitionistic impulses in dreams. Who of us hasn't dreamed frequently that he appears in public with insufficient clothing or no clothing at all? But the Frenchman or the Frenchwoman does not depend on dreams, the outlet of the unconscious, to satisfy this impulse. A visit to the Casino de Paris, or the Apollo, or the Folies Bergères will be ample to content him or her. There nudity is a commonplace and there are no police restrictions, so that a vicarious exhibitionism is always available. Practically all our impulses, which are crowded into our unconscious life by our Puritan tradition, there to fester and produce neuroses, can find ample satisfaction in the daily life of the French. Is it not natural, then, that psychoanalysis should find so poor a field in France? The test of the value of psychoanalysis and its truth should be sought in a country like our own, where old instincts are constantly defeated by artificial, moral rules imposed by a high culture, and driven into the unconscious where they work their havoc.

Dry Americans Abroad.—In all the discussions of prohibition in these columns, its domestic aspects alone have been considered. Yet there is an angle of the subject that has not been faced by American opinion—the results of prohibition on our foreign relations. At first blush it would appear that such results can only be trivial and negligible but to an American observer abroad they are anything but that. Continental opinion of America, however friendly, has always regarded us as, morally, a somewhat hypocritical nation; and it is safe to say that, since prohibition came into force, the conviction of our hypocrisy has deepened considerably. In

France particularly this conviction has strengthened in the past year. The French are a wine-drinking nation and drunkenness is an uncommon spectacle. In the height of the season of the influx of foreigners, however, there is a formidable increase in drunkenness in the capital and arrests are common. It is said to admit that ninety per cent. of the offenders in this respect are Americans. Intoxicated Americans are a common sight, particularly on holidays; and their explanation before the magistrate is that the liquor they can get in America is so poisonous that they cannot restrain themselves from imbibing in unrestricted quantity the pure spirits that are so readily and cheaply obtainable in Paris. The 14th of July is a national holiday in France and it is gaily celebrated for three days and nights in Paris. There are bands situated at almost every corner and there is dancing in the streets all night. There is much drinking, too, but there is no intoxication to speak of among the French; there is just a free, wholesome, unrestrained gaiety. I was in Paris during the last celebration and I was delighted to observe the fine, clean spirit of the French at their gayest. And I was ashamed to see, on more than one occasion, the intrusion of groups of Americans, disgustingly drunk, who broke up many happy parties with their boisterous and indecent conduct. The publicity given to these episodes in the press was equally disheartening. To the French conviction of our hypocrisy was added a conviction of our bad taste. The former conviction is strengthened by the knowledge freely avowed by Americans abroad that, despite the Eighteenth Amendment, excessive drinking is a most common occurrence in America. They know that, tho liquor is somewhat scarcer, more money is expended on moonshine and poisonous concoctions than in the days before prohibition, and they ask themselves how a great nation can tolerate on its statutes a law so meaningless and futile. To them it appears quite consonant with American hypocrisy to boast a superior law despite its abominable execution; it strikes them as of a piece with our Puritanical refusal to face the realities of prostitution, of venereal disease, and all the social ills which our delicate moral sense will not permit us to face frankly and intelligently. They see in pro-

hibition only a course which enriches law-breakers and malefactors, while it robs the state of its richest revenue. They see in it our usual failing, the inability to face the truth and to face it philosophically. And, we add most regretfully, they are not far from right in their judgment. Our own personal experience is that intoxication has increased rather than diminished thruout the country; that people given to moderation once are now tempted to excess by the restraint imposed on them against their will; that fortunes are being made by illicit concoctors of deadly liquor—fortunes, part of which would, in normal circumstances, have been diverted to the state by legitimate dealers; and that the moral effect of prohibition is negligible compared with the demoralizing influence it has had. And, from the point of view of national health, it has had deplorable results. Thus, both at home and abroad, the advantages of prohibition are practically *nil*. They are *nil*, not because the principle of prohibition is wrong, but because its execution has been violent, visionless and muddling.

Minority Opinion.—In the person of the new Postmaster General, the American press has found a Moses to lead its more radical members out of the wilderness of persecution and prosecution to which it has been a victim for nearly four years. The restoration of postal privileges to the important socialist daily in New York, *The Call*, and to the radical monthly, *The Liberator*, is the first heartening sign of the intention on the part of those in power to revert to the fundamental principle which inspired the often-mentioned and little-headed founders of our country in formulating the law of the land—the sacred right of the minority to be heard and to be protected against any effort on the part of the majority to destroy it. The Postmaster General not only responded loyally to this principle, but even went beyond the letter of the law, granting the magazine a sum (extremely welcome to them in their difficult career) approximating their actual financial loss during the period in which the postal privileges were withheld. To many Americans, who had more than one good reason for feeling that the war for

freedom had robbed them of more of the privileges of democracy than they had achieved by victory, the step is an encouraging one. It is to be regretted that the retiring administration, which imposed the restriction, had not the grace to remove it before it withdrew; and it is to be hoped that this fine gesture is but the first of a number which will restore the liberties which necessity and national danger in time of war made it prudent to restrict. Until this incident brought a ray of hope to them, liberal opinion in America was settling down to the conviction that the dark forces in the country, the reactionary elements, intended to perpetuate the restraint imposed on minority opinion, to crush and render mute the healthy, rebellious, critical element which is the one indispensable sign of health in a community. How indispensable this element is, was clearly understood by the framers of the Constitution, who made every provision for safeguarding the rights of the minority. As one of our earliest statesmen put it, the right of a political group to be wrong is sacred. It is no accident that many of the most conservative men in the country, some of them violently opposed to the principles for which the radical publications stood, opposed vigorously the attack on their privileges. During the war, there was some excuse for such a course, but there was no excuse for continuing the abuse of their rights once the national danger was past. In the continuation of this abuse, conscientious citizens saw only an effort on the part of privileged persons and groups to perpetuate temporary war measures—an effort as common in European countries as in our own. The language of the war, the vocabulary of patriotism, the hysteria of critical days were kept alive to serve a purpose which they had outlived, because it was in the interest of certain groups to keep them alive. In the old days tyrants when they had reason to feel uneasy about the security of their thrones, found distraction for the dissatisfied masses in war with some neighbor. In the same way, the dark forces here have sought to distract the dissatisfied masses from any concerted expression of their wants by nursing the war spirit and stubbornly persisting in keeping in force war legislation almost three years after fighting had ceased. Fortunately, it

does not appear the purpose of the present administration to continue unfavorable laws against minority opinion. A country without a vigorous and articulate minority is bound to end in decay. Dissension and the encouragement of intelligent dissension is as useful to the political organism as vaccination is to the physical organism. Good government is as much the consequence of rebellious opinion as it is of conservative thinking. It should be borne in mind that our Constitution was the fruit of rebellious opinion of the soundest kind.

A Spiritistic Divorce.—The mother-in-law chestnut has been saved from senile decay by its intrusion into an entirely new field—that of the spirits. It was inevitable that it should occur. A despairing husband has applied for a divorce on the grounds that the spirit of his mother-in-law has persistently and tyrannically interfered with his domestic happiness. He was able to bear the brunt of this interference while she was alive, but death brought him no relief. Her spirit relentlessly pursued him, and he has appealed to the courts to save him. The unhappy wretch has been the victim not only of his mother-in-law but of his sisters-in-law, who have made a hell of his life by haunting him and bullying him and continuing their torments even after they left this life. We do not wish any special credit for our prophetic powers, but our readers may recall that some time ago we predicted in these columns events under which the present incident comes. Once the truth of spiritism is acknowledged, it was pointed out, all hope for long-suffering, hen-pecked, heavily mother-in-lawed husbands disappears. And now an actual case in point is revealed. Death, instead of being robbed of its sting, is given new fangs. The consolation of oblivion is no more. And the problem of marriage is complicated by a new difficulty. It is too late for married men to remedy their pitiful situation, but bachelors take heed! It will be necessary hereafter not only to stipulate, before marriage, that your mother-in-law will not live with you, but that she will not die with you. And the cautious bridegroom will take no chances and exact the same condition of all his sisters-in-law.

One never can be too careful. The really wise man, however, will accept only a thoroly orphaned bride.

The American Medical Editors' Association Meeting.—The meeting of the American Medical Editors' Association held in Boston, June 6th and 7th, this year was one of the most successful in the history of the organization.

The President, Dr. H. S. Baketel, editor of the *Medical Times*, ably presided, and carried the program thru in an unusually gratifying way.

The following officers were elected for the ensuing year: President, Dr. F. C. Lewis, Managing Editor, *International Jour. of Surgery*; First Vice-President, Dr. F. H. McMechan, Editor, *Ohio State Med. Jour.*; Second Vice-President, Dr. D. S. Fairchild, Editor, *Iowa State Med. Jour.*; Secretary and Treasurer, Dr. Jos. MacDonald, Jr., Managing Editor, *American Jour. of Surgery*.

Dr. Butler Dies on Way Home from Boston.—As we go to press the sad word comes of the sudden death of Dr. George F. Butler. At the Boston Meeting of the American Medical Association and of the American Medical Editors' Association, Dr. Butler was in active attendance and seemed to be in the best of health and spirits, but on the train on the way home he was suddenly stricken, and passed away in a few minutes. To those of us who had the privilege of Dr. Butler's friendship and had so recently enjoyed companionship with him in Boston, the report of his death comes as a terrible shock. It does not seem possible that this great lovable man, this charming personality, this splendid mind has been taken away from among us forever. Our dear, kind, "true blue" Butler, with his wonderful gifts as poet, author, speaker, philosopher and physician dead? No, no, no, this cannot be! But, alas, it is all too true, and once again Death, the Reaper has swung his scythe, and cut down in his prime, one whom the country—the medical profession particularly—could ill afford to lose.

Lack of space precludes our paying in this number the tribute to Dr. Butler our

affection and admiration for him urges us to prepare, and which he so richly deserves. In our July issue, however, we will refer more appropriately to the great loss the practice of medicine has sustained in the sudden and untimely death of this true American physician, who was indeed one of God's own people.

The Supreme Test.—Manufacturers thruout the country are confronted with the most dangerous situation of this generation.

It is more than a crisis. It is a drive for the jugular vein of many leading industries. If this characterization is regarded as sensational, let any business man examine the so-called Volstead "anti-beer" bill, known in the official records of the House of Representatives at Washington as H. R. 6,752.

The average business man, who has read in the newspaper dispatches from Washington that an "anti-beer" bill was pending, has seemingly shrugged his shoulders. Few, if any of them, have given a thought to the possibility that the measure affected them in the slightest degree.

Yet this very bill spells more disaster to the industries of this country than any other proposal in years. It is true that the seeming purpose of the latest Volstead bill is to upset previous rulings concerning beer as a medicine. If it stopped there, no substantial objection could be offered against it.

Under the cloak of preventing the use of beer as medicine by physicians, H. R. 6,752 would permit any chemical or other manufacturing industry, using or depending upon alcohol to be shut down within thirty days. And what is more dangerous, no appeal could be made to the courts.

That is only one provision of the proposed new law. Another section would require the posting of permits for twenty days, before this basic chemical for many industries could be secured. Power is also given to compel the posting of a copy of the application upon the factory or business house. Then any one of a group of local, state or national officials may file a protest to it. By the time the red tape involved was unsnarled, any reputable company, concern or corporation might be in the

hands of the Sheriff or the Federal Courts in a bankruptcy proceeding.

If any more sensational or autocratic procedure is possible, the scene of it would probably be located in Russia or some other remote center of governmental disorder.

Fortunately, the bill has not passed the House. But the danger is acute. It may be passed within a few days, unless the manufacturers of this country make a protest. The first step has been taken. It was inaugurated by the New York Section of the American Chemical Society. A protest has been made to the Rules Committee of the House of Representatives. It is directed at H. R. 6,752.

Many important industries are now confronted with the supreme test. If a group of fanatics can jam this bill thru now, while the leading manufacturers of the country have been lulled to sleep, anything is possible. The duty of the hour is to write or telegraph a protest to your senators and congressmen today against this real menace to American industries.

The picture on the front cover this month is of Dr. Morton, the discoverer of ether anesthesia.

Recipe for Making a Good Nurse.—

Mix together equal parts of pluck, good health and well-balanced sympathy; stiffen with energy and soften with the milk of human kindness. Use a first-class training school as mixer. Add the sweetness of a smile, a little ginger and generous amounts of tact, humor, and unselfishness, with plenty of patience. Pour into the mould of womanhood, time with enthusiasm, finish with a cap, and garnish with ambition.

The sauce of experience is always an improvement to this recipe, which, if followed closely should be very successful and exceedingly popular.—*Alumnae Record*, Buffalo General Hospital.

For baby's sore mouth wash with cold water touched with alcohol.—*Med. Herald*.



ORIGINAL ARTICLES

A TRIBUTE TO MORTON.

ETHER DAY AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION IN BOSTON, MASS.

BY

S. ADOLPHUS KNOPF, M. D.,
New York City.

Altho the 75th anniversary of the first conclusive and successful trial of ether as a general anesthetic in capital surgical operations will be duly celebrated at the Massachusetts General Hospital on October 16, Morton's recent election to the Hall of Fame gave rise to two important events which took place in Boston on June 6 and June 7, respectively. On the latter date Dr. J. Collins Warren, Moseley Professor of Surgery Emeritus, Harvard University, addressed the surgical section of the American Medical Association in the largest amphitheater of the Massachusetts General Hospital on "The True Significance of Ether Day."

Dr. Warren called attention to the fact that it had been stated that the controversy connected with the discovery of surgical anesthesia had obscured its true origin, but he said these conditions surrounded the beginnings of all great discoveries. Who could think of the steamboat without associating it with the name of Fulton; or that the telegraph without associating it with

the name of Morse; or of the telephone without coupling it with the name of Bell? And yet years of litigation, as many of us personally know, followed the introduction of the telephone, and so we find the discovery of surgical anesthesia no exception to the general rule. It is true that other individuals experimented also with ether, but not to a convincing degree, and therefore failed to affect in any way the surgical practice of the time.

On October 16, 1846, Dr. Morton administered ether to a patient for a major operation in surgery at the Massachusetts General Hospital. The experiment was so successful that it was followed immediately by other operations on following days. Dr. Henry J. Bigelow, pointing out this experience, showed three important things, the safety, the certainty, and the universal applicability of the agent employed in relieving pain in surgical operations. It was a practical demonstration of what had been dreamed about for many years and it was this triple feat that constituted the "Dis-

covery" and entitled, October 16, 1846, to have a special name like that of our national holiday. Whereas the Fourth of July is called Independence Day, the date we are considering—October 16, 1846—should be called Ether Day, for both ushered in the dawn of a new era.

The interesting discourse of Dr. Warren was followed by a visit to the old amphitheater of the Massachusetts General Hospital, the "Operating Theater," it was called in those days, where the first etherization took place and where many relics of that day (ether-sponge and inhaling apparatus used by Morton, surgical instruments, photographs, etc.) are piously preserved. On the walls of this historic room one reads the following inscription:

"On October 16, 1846, in this room, then the Operating Theater of the hospital, was given the first public demonstration of anesthesia to the extent of producing insensibility to pain during a serious surgical operation. Sulphuric ether was administered by William Thomas Green Morton, a Boston Dentist. The patient was Gilbert Abbott, the operation was the removal of a tumor under the jaw. The surgeon was John Collins Warren. The patient declared that he felt no pain during the operation and was discharged well December 7th. Knowledge of this discovery spread from this room throughout the civilized world, and a new era for surgery began."

Dr. Warren, who bears the same name as the surgeon who operated on Gilbert Abbott, expressed to me personally his great satisfaction over Morton's election to the Hall of Fame and presented me with a photostat of a page of the *Illustrated London News* of January 9, 1847, showing the picture of the original apparatus for rendering surgical operation painless (see figure 2), under which he had written that this was a record of the introduction of surgical anesthesia in Europe furnishing valuable contemporary testimony. "It attributes this great discovery solely to Dr. Morton, a dentist of Boston, U. S., a ver-

dict which has been confirmed three-quarters of a century later by the vote of the electors of the Hall of Fame."

In the articles and letters which I addressed to the medical press of America and individually to the electors of the Hall of Fame prior to the election, I frequently referred to invaluable work done by Prof. William H. Welch, of Baltimore, in weighing all the evidences pro and con in the painful controversy which had been going on from the day of the first successful etherization by Morton, up to this very date. Those who are interested in the history of surgical anesthesia and in the life of Morton and his struggles, would do well to read a remarkable book which appeared in 1857 by Nathan Payson Rice, published by Putney & Russell. It is entitled "Trials of a Public Benefactor as Illustrated in the Discovery of Etherization." Another authentic document is the anniversary address of Prof. William H. Welch, delivered on Ether Day, October 16, 1908, which can be procured by applying to the Superintendent of the Massachusetts General Hospital.

I have in my possession the photograph of a letter by a contemporary of Morton. I refer to no less an authority than Oliver Wendell Holmes who, as late as 1891 wrote: "Few persons have or had better reason than myself to assert the claim of Dr. Morton to the introduction of artificial anesthesia into surgical practice. . . . The priceless gift to humanity went forth from the operating theater of the Massachusetts General Hospital, and the man to whom the world owes it is Dr. William Thomas Green Morton."

In the above mentioned contribution of Professor Welch in 1908, we read the following statement:

"The attendant circumstances were such as to make the operation performed on October 16, 1846, at the surgical amphitheater of this hospital, by John Collins Warren, upon the patient, Gilbert Abbott, placed in the sleep of ether anesthesia by William Morton, the decisive event from which dates the first convincing public demonstration of surgical anesthesia, the continuous, orderly, historical development of the subject, and the promulgation to the world of the glad tidings of this conquest of pain. Had this demonstration or any subsequent one of like nature failed of success, it is improbable that we should have heard much of claims to the prior discovery of surgical anesthesia."

anniversary of whose birth we hope soon to celebrate, wrote me as follows:

"Regarding your inquiry about Dr. William T. G. Morton, I am very glad to forward you a few personal reminiscences. At the time of the controversy in Congress over the question of priority in the discovery of anesthesia I was editor of the *New York Journal of Medicine*. Dr. Morton called several times on me to discuss the situation and I had an opportunity to estimate the value of much of the evidence presented by the competitors. Dr. Morton was a man of pleasing personality, always faultlessly dressed, extremely courteous,

My dear Sir,

Few persons have
or had better reason than myself
to ascribe the claim of Dr. Morton
to the introduction of artificial
anesthesia into surgical practice.

* * *

This priceless gift to humanity
went forth from the operating theater
of the Massachusetts General Hospital
and the man to whom the world
owes it is Dr. William Thomas Green Morton.

Yours very truly
O. W. Holmes

FIG. 1. Facsimile of parts of a letter written by Dr. Oliver Wendell Holmes.

Of historical interest and of inestimable value to me personally is a letter I received not quite a year ago from the venerable Dr. Stephen Smith, relating to Morton's personality and the memorable event which took place on October 16, 1846. On July 10, 1920, Dr. Stephen Smith, the hundredth

and evidently controlled by a highly organized nervous system. It was due to his restless nervous activity that anesthesia was finally brought to a public test. His advocacy and practice of anesthesia in dentistry created a host of enemies, who sought his ruin. He met them with ever-renewed instances of success and finally with the famous operation of Professor Warren on the 16th of October, 1846, at the Massachusetts General Hospital. Even at this operation the enemies took advantage

of a slight delay in the appearance of Dr. Morton to impress the large audience of Boston's most prominent physicians and surgeons that he did not dare face a real trial of his vaunted anesthetic. It was only at the conclusion of the operation, when Dr. Warren spoke these words, heard around the world: 'Gentlemen, this is no humbug,' that they were silenced."

It was not the discovery of ether, but its use as a general anesthetic for which the credit should forever go to Morton, and Francis Darwin is indeed right when he says: "In science, credit goes to the man who convinces the world, not to the man to whom the idea first occurs." (*Eugenics Review*, 1914.) Morton convinced the world—the credit is his. Regarding the responsibility for the result of the first demonstration of general anesthesia, I wish to quote from a communication which I received from Dr. George W. Gay, Senior Surgeon of the Boston City Hospital and Ex-President of the Massachusetts Medical Society:

"The man who gave the anesthetic upon that memorable occasion at the Massachusetts General Hospital was Dr. William Thomas Green Morton. He had experimented with sulphuric ether, had demonstrated its safety and efficiency and sought an opportunity to show its efficiency in general surgery. He assumed the sole responsibility of the demonstration. The results, whatever they might be, rested upon him. His enterprises, his enthusiasm and his courage brought success. Whatever suggestions or assistance he may have received from others, he was *the* man that made anesthesia a practical, everyday blessing to mankind."

Space will not permit us to recapitulate here or even to summarize the controversies which were started by the adversaries of Morton during his lifetime and after his death by their heirs. These matters have been carefully gone over by Dr. Welch in the communication above referred to also by Dr. W. W. Keen, of Philadelphia, and others. The evidence has been scrupulously weighed by the electors of the Hall of Fame and had they not been convinced that to Morton should come just fame, he

would not have received an equal number of votes to those given to our beloved Mark Twain. It is, therefore, to be deeply regretted that these gentlemen should have been attacked in a recent open letter in the *Atlantic Constitution*, which, over the signature of Dr. Joseph Jacobs, of Atlanta, says:

"Surely, this electorate of the University of New York, prior to their voting could have made little, if any, effort to weigh the evidence that so conclusively gives the honor of this unsurpassed achievement in medicine and surgery to Dr. Crawford Williamson Long of Jefferson and Athens, Ga."

That this statement should have been made is all the more to be deplored because in the *Southern Medical Journal* of December, 1849, Long himself claims no priority, but modestly and honestly makes the following admission:

"The result of my second experiment in etherization was such as led me to believe that the anesthetic state was of such short duration that ether would only be applicable in cases in which its effects could be kept up by constant inhalation during the time of the performance of the operation. Under this impression, up to January, 1847, I had not used ether in but one case in extracting teeth, and thus deprive myself of experimenting in the only class of cases which are of frequent occurrence in country practice. . . . Others more favorably situated engaged in similar experiments and consequently the publication of etherization did not bide my time."

Our immortal Osler, as one of the most profound students of historical medicine with his keen sense of justice, speaks of Morton's share in the discovery and promulgation of ether anesthesia in the following words: "William T. G. Morton was a new Prometheus who gave a gift to the world as rich as that of fire, the greatest single gift ever made to suffering humanity."

The Association of American Anesthetists, presided over by Dr. Jos. E. Lumbard, celebrated the election to the Hall of Fame of the founder of their specialty by a dinner at the Hotel Bellevue in Bo

ton, to which Mr. Wm. A. Morse, one of the leading lawyers of the State of Massachusetts, Dr. H. Edwin Lewis, the

editor of AMERICAN MEDICINE, Dr. H. Edmund G. Bogle, O. B. E., of London, and the writer had been invited as guests. The

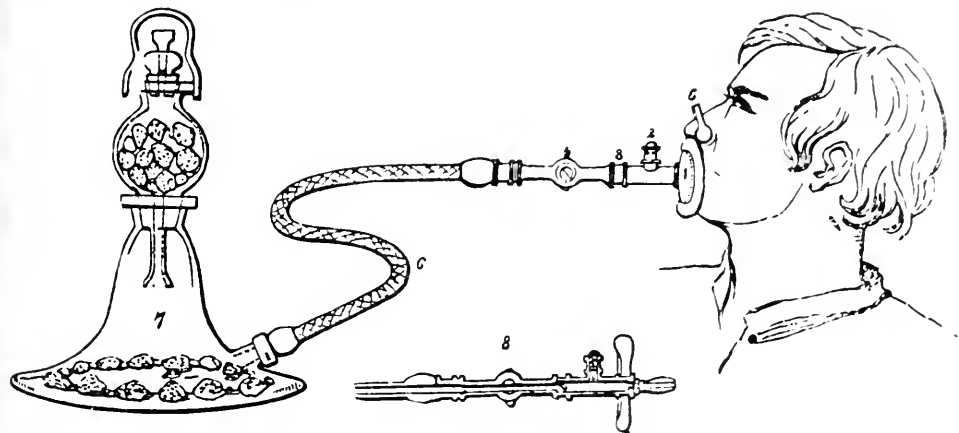


FIG. 2.¹ The apparatus for rendering surgical operations painless.

¹This illustration and the following descriptive note are taken from a page of the *Illustrated London News* of January 9, 1847, and constitute a record of the introduction of surgical anesthesia into Europe, which furnishes valuable contemporary testimony.

It attributes this great discovery solely to "Dr. Morton, a dentist of Boston, U. S.," a verdict which has been confirmed three-quarters of a century later by the recent vote (1920) of the electors to the Hall of Fame.

THE NEW MEANS FOR RENDERING SURGICAL OPERATIONS PAINLESS.

Last week the first experiment was made in this country of employing the inhalation of the vapor of sulphur ether as a means of rendering surgical operations painless. The application is of American origin, and was first introduced, a few months since, by Dr. Morton, a dentist of Boston, U. S., by whom it was communicated to Dr. Boott, of Gower street. By this gentleman the discovery was described, on the 17th of last month, to Mr. Robinson, the surgeon-dentist, also of Gower street, who, on the following day, operated upon a young lady thrown into sleep by the inhalation, during which a molar tooth was extracted from her lower jaw.

The inhalation occupied a minute and a half, and the patient's recovery from sleep another minute. Dr. Boott questioned her respecting the tooth, and she expressed a great surprise at finding it was removed. She said that all she had felt was merely a sensation of cold round the tooth, a sensation which was caused, perhaps, by the coldness of the extracting instrument.

The apparatus employed consists of the lower part of Nooth's apparatus, with a flexible tube, which are attached a ball and socket valve and mouthpiece, similar to those commonly

used for inhalation. The apparatus has been constructed by Mr. Hooper, of 7, Pall Mall East, according to Dr. Boott and Mr. Robinson's instructions; it is very elegant in appearance.

The apparatus has since been successfully used in operations at King's College Hospital, by Mr. Fergusson, and, on Thursday last, by Mr. Aston Key, at Guy's Hospital; among other cases was the removal of an abscess from the great toe of a female; in this case the means was not entirely successful, for the patient screamed at the moment of the first incision of the instrument, but, on recovery from the effects of the inhalation, was totally unconscious of the operation having been performed.

The annexed engraving will best explain its details:

1. Pad for mouth, to be held by the operator.
2. Horizontal valve for the escape of expired air.
3. Vertical flap valve.
4. Stop-cock.
5. Nasal spring.
6. Elastic tube.
7. Glass vessel, with a smaller one having pieces of sponge saturated with ether, and having a small perforated stopper, to be opened when the apparatus is in use.
8. Sectional view of the pad, showing the mouth-piece.

The full effect of the vapor is produced in from one to two or three minutes generally and, as soon as it is perceived, the operation is performed. If the stop-cock shuts off the vapor, and it is wished to let the patient breathe air, the nasal spring must be taken off. In prolonged operations this may be found desirable; and the inhalation of the ether may be renewed at the will of the operator, the nasal spring, of course, then being placed on the nose.

Secretary of the Association, that genial hero and scholar, Dr. F. Hoeffler McMechan, acted as toastmaster. He dwelt briefly on the gratifying incident of Morton's election to the Hall of Fame and then introduced the speakers in an unusually graceful and scholarly manner. All the speakers referred to the success of the society, to Morton's election to the Hall of Fame, and the ardent hope of the members to be soon acknowledged as a section of the American Medical Association. Most touching were the tributes paid by the members of the society to their perpetual secretary, Dr. McMechan, in presenting him with a handsome gift in the form of a thousand dollar check. Almost overcome with emotion, he responded feelingly on the value of friendship and the love all the members of the Association had for him and he for them, and their appreciation of his feeble efforts for the welfare of the society.

I was asked to say something about my humble efforts in calling the attention of the American medical profession to the fact that there had been no physician in the Hall of Fame, and on the final triumph I stated that the success was by no means due to my own modest labors, but to the writings of men whose names I have quoted above, to the willingness of all the electors to read what I had quoted and to their sense of justice and fairness. That the four medical men who were among last year's electors (Major General Leonard Wood, Prof. William H. Welch, and Drs. Charles H. and William J. Mayo) were also in a large measure responsible for the success of our campaign, is I know recognized by the American medical profession as gratefully as by myself.

It was thus with a feeling of profound gratitude toward all the men who had

worked to bring final justice to one who had suffered much and reaped so little in life that I witnessed, on May 21, the unveiling of the Morton tablet in the Hall of Fame. I forgot for the moment all the acrimonious literature of the past, all the controversy, the unpleasant and sometime even abusive letters to which I had myself been subjected because of my advocacy of the name of William T. G. Morton, and listened reverently to the words of Dr. F. A. Washburn, who, accompanied by Dr. W. H. Welch, in behalf of the Massachusetts General Hospital and the American Medical Association, presented the tablet to the Hall of Fame. It was accepted by the Chancellor of the New York University, Dr. Elmer E. Brown, with feeling words.

In my after-dinner address in Boston related the varied experiences, sometime disappointing but more often gratifying that I had had during my campaign. My suggestion that the Association should now endeavor to procure a bronze bust of Morton, to be placed in the space over the tablet reserved for that purpose, was enthusiastically received, and on the next day I received from Prof. William H. Welch the following telegram:

"Heartily approve and wish all success for your efforts to procure bust of Morton for the Hall of Fame where America's greatest contributor toward relief of mankind's physical suffering is commemorated for all time. Morton's tablet. Association of Anesthetists could most fittingly take the lead for this worthy patriotic purpose.—William H. Welch"

I have no doubt that the funds for such a bust will be forthcoming. In the handbook which is issued by the Hall of Fame we read the following brief description of the reasons which prompted the electors to make Morton one of America's great immortals:

"William Thomas Green Morton was born at Charlton, Mass., August 18, 1819, and died

New York City, July 15, 1868. He was the first to give to the world a demonstration of the use of sulphuric ether as a practical surgical anesthetic in a major operation performed in the Massachusetts General Hospital in 1846. The French Academy of Sciences gave the Montyon prize to Dr. Morton for the application of ether to surgical operations." (Elected in 1920 by 72 votes, tablet unveiled in 1921.)

The tablet bears the following inscription:

"William Thomas Green Morton, 1819-1868. I leave it to surgeons and physicians to speak the praises of ether in the various operations in which it is now universally used, whenever the relief of pain is an object of importance."

As one of the physicians who gladly speaks the praises of this, the greatest achievement of American medicine, I may in conclusion be permitted to add to the eulogy of Morton by Dr. Warren my own feeble tribute which I was privileged to read before the Association of American Anesthetists at their important gathering this year:

THE REVELATION OF GENERAL ANESTHESIA IN SURGERY AND OBSTETRICS.

A TRIBUTE TO WILLIAM THOMAS GREEN MORTON.

There was a time when man believed
That pain and suffering were decreed by God,
That always at the hour of birth
The mother had to suffer and to bear
The agony which Heaven sent
Before she could embrace the child
For which her heart had longed and prayed;
And even priests who taught the word of God
Professed it was the will of the Most High.
They said "It ever has been and it must
Forever be the same, for any change
Would be to disobey the word of God."
The mothers were resigned to suffer thus
And bear their children as it seemed decreed.
Then with the progress of mankind in art,
In silence, and in industry,
With steamship, railroad, mill, and factory,
Came many accidents to life and limb
And suffering from all kinds of injuries;
And with them all there still must come
The horrors of recurrent war,
With wounds from gun, from cannon, and from shell.
Our fathers, skilled in medicine
And in the art of surgical relief,
Wrought wonders in their way, yet in their work
Were hindered, for the patients could not stand

The pain and suffering long enough
That needed reparation might be made.
All sorts of means were tried to still the pain
While surgeons' hands sought ultimate relief,
But none seemed sure and lasting;
Until there came, inspired by Heaven,
A man who bravely faced the doubting world
And dared to show that in God's realm
There are the means of calming pain
And during childbirth giving peaceful sleep,
And sleep to the patients while the surgeon worked

To skilfully remove or place anew
What led again to health and happiness.
This man we honor now as one of those—
The greatest benefactors of mankind.
Disciples by the thousands in this land
And other lands are practicing his art,
And millions of restored do call him blessed.
This man so much revered and honored now,
Did not receive in life his due reward.
Misunderstanding and misunderstood,
He suffered much in heart and mind,
And sadness filled his later years of life.
But now at last has justice come to him,
And yonder within the sacred Hall of Fame,
Walballa of our great and noble men,
We read the name of him who did reveal
Unto mankind a gift so great, so good,
That reverently we call the gift divine.
It came from God and was revealed through him,

Whom we to honor gather here today.
To him at last has come immortal fame
Consilio, animis et dei gratia
Through wisdom, courage, and the grace of God.

THE SURGICAL STERILIZATION OF WOUNDS.

BY

ETHAN FLAGG BUTLER, M. D.,

New York City.

The recent war did much for medicine; not so much in developing new fields, as in standardizing certain therapeutic measures, and in bringing certain phases out of the realm of theory into the realm of proved fact. Many empirical procedures gave way to methods of precision and quantitative accuracy. The vast number of patients allowed intelligent observers to appreciate facts which were all but lost in the relative scarcity of similar material in civil life. Close, uninterrupted contact with

the problems in hand and the earnestness of the investigators hastened the ultimate solution.

From the very beginning, much investigation centered around the subject of wound infection. Many valuable contributions were made in this field, and among the most valuable were the studies by British, French and American surgeons in the prevention of infection by prompt and thoro surgical cleansing of the wound—débridement, as the French term it. Such a procedure was no new idea. Thoughtful surgeons had long recognized the value of adequate surgical care to wounds. The theory had been propounded, but had never been substantiated on a great scale. The war gave the opportunity to prove the theory, to place the whole procedure on a sound basis, and to establish finite limits of applicability and standards of attainment.

The theory of surgical sterilization, or débridement, is as follows: Given a recent, grossly contaminated wound, it is possible, provided acute infection has not supervened, to so thoroly remove, by mechanical means, all substances favorable to bacterial growth, and to so nearly remove all bacteria themselves, that the wound may be closed immediately by primary suture with every expectation of prompt aseptic union. This theory is based on the following facts: That coincident with the receipt of a wound, whether it be by battle casualty, industrial accident or other cause, there is damage to tissue, escape of blood and body fluids into the wound cavity, possibly introduction of foreign bodies, and certainly introduction of bacteria. That at the outset the bacteria are smeared over the surface of the wound or lie in the neighborhood of such foreign bodies as may have been

introduced. That bacterial growth does not immediately commence with full intensity, but that there exists a latent period, "the period of contamination," as opposed to "the period of acute infection," during which time the bacteria have not invaded healthy tissue, nor has the patient manifested the typical signs of inflammation. That traumatized tissue has no power of resistance to bacterial invasion, and that devitalized tissue is excellent culture medium for bacterial growth. That normal tissue has some power of resistance to bacterial invasion.

The war studies also established certain prerequisite conditions that had to be fulfilled before débridement and primary suture could reasonably be undertaken, and also established other conditions that offered no obstacle to débridement, but did contraindicate immediate primary suture. The absolute prerequisites to successful débridement were: That the wound must be operated during the period of contamination; that the condition of the patient must permit operative treatment; that the operating room facilities must assure a perfect asepsis; that the skill of the surgeon must be adequate for the task.

Once the period of contamination has passed, and the period of acute infection has been established, surgical intervention is extremely unwise. One may not operate in the environment of an acute spreading infection without very serious risk to the patient. Under military conditions the period of contamination was rated at from 8 to 12 hours. Under conditions of civil life it may safely be rated at a longer period—from 12 to 18 hours. No absolute limit can be set. The surgeon must judge for himself, after careful examination of the wound, whether or not the favorable

opportunity for surgical cleansing has passed.

Débridement is not a simple procedure. It requires time, and in the very great majority of cases a general anesthetic. A patient that is in shock cannot be expected to stand the operative traumatism that is entailed.

Débridement demands more than the usual operating room precautions as regards asepsis. It is asepsis raised to the *nth* power. Starting with a badly contaminated wound, the surgeon seeks to render it as clean as a typical hernia wound. Surgical sterilization cannot be accomplished in the field or in the shop. It cannot be attained in office, dispensary or ward, unless their equipment far exceeds the average. It is a procedure for the operating room, and for the well-organized operating room, at that.

Successful débridement is not easy; it demands more than usual surgical ability. The aseptic precautions demand a degree of teamwork that can only be attained by long practice. Early in his experience a surgeon will do well to débride, but not suture his wounds, waiting a few days to observe the results of his efforts before considering the closure of the wound. As his skill increases he may add immediate primary suture. A surgeon cannot expect uniform success in his early attempts. By all means, it is not the type of operation that can be turned over to members of a hospital house staff.

Two other conditions, which did not materially affect the decision to débride a wound, were established, by military experience, as strict prerequisites to immediate primary suture. They were: That the contaminating organisms must not be of extreme virulence; and that it must be

possible to hold the patient under observation, at the hospital of operation, for at least ten days after operation.

Time does not permit a bacteriologic diagnosis based on culture. Time does not preclude the examination of a smear from the wound, and the rough determination of the types of contaminating organisms. The organism, *per se*, is no contraindication to débridement, but military experience established the fact that it is safer not to close wounds wherein there can be found great numbers of streptococci or fecal anaerobes. In civil life, the streptococcus will probably be the only organism of major importance. It is, however, quite possible that experience will demonstrate that wounds incurred in such environments as meat shops, streets or farms will offer less encouragement for primary suture than will wounds incurred, for instance, in metal industries.

Military necessity often demanded the rapid evacuation of patients from front to rear. It soon became apparent that sutured cases which were allowed to remain at the hospital of operation gave a very much higher percentage of success, than did the sutured cases that were subjected to transportation. Also, it was noted that secondary infections following transportation were extremely severe, and that the surgeons who had to care for them were handicapped by lack of first-hand knowledge as to the operative findings and procedure. Appreciating the necessity of absolute rest following suture, it became the rule that, regardless of how thoro the surgical cleansing had been, no immediate primary suture was to be done unless the patient could be kept under observation for at least ten days. In civil hospitals evacuation rarely enters into consideration, but there is another factor to be reckoned with—premature dis-

charge. Unless it is known that a patient can be kept, and is willing to remain, for from seven to ten days, depending on the extent of the wound, no immediate primary suture should be attempted. Rest can be made very much more effective in a hospital than in a home.

A final factor that has an important bearing on the closure of the wound has been developed by observations in civil life. As a prerequisite to immediate primary suture, it is, that the physiologic condition of the patient, apart from the effects of the wound itself, must be such as to assure normal effective efforts at tissue repair.

The average patient, in army hospitals, was a vigorous young male adult. The rigors of military training and campaigning had weeded out those who were not physically able to endure and survive considerable hardship. Civil hospitals draw their accident cases from all types of mankind; from the perfect young adult, to the syphilitic, arteriosclerotic city derelict. At the one extreme the surgeon may expect every support from the recuperative power of the patient; at the other extreme he faces failure, not because of technical error on his own part, but on account of the inability of the patient to heal his own bodily defects. There should be no hesitation at surgical cleansing in such cases, but immediate primary suture in the face of metabolic disturbances, vascular changes, chronic alcoholism, or demonstrable syphilis does not promise great success. Delayed primary suture, or antiseptic treatment is a wiser course.

When the prerequisite conditions for débridement have been met, the patient should be forthwith sent to the operating room, and all details of preparation and operation there carried out. The less the wound is

handled in ward or admitting room; the less the interior is explored by probe, finger or other device; the less local medication is used; the better is the prognosis for success in both the cleansing and the suture. The preparation of the field is rightly part of the operation, and should be done by the surgeon himself, or under his immediate supervision. Whether the preparation be done prior to, or after, anesthetization will depend on the amount of pain involved. In general, and in compound fractures in particular, the patient should be anesthetized before any preparation is attempted.

Local anesthesia is not satisfactory, unless it be accomplished by nerve blocking at a point remote from the site of operation. The full extent of a wound cannot be gauged from its external appearance. More important, however, is the fact that infiltration will destroy the normal tissue picture on which the surgeon must depend in making his dissection; that it will leave the tissues less resistant to infection; and that fresh areas, beyond the reach of the operation, may become infected in the process.

The preparation should proceed in an orderly manner; first the superficial skin cleansing, then the toilet of the wound, and finally, the sterilization of the surrounding skin field. During the preliminary skin cleansing it is well to protect the wound by a gauze tampon, moistened in some mild antiseptic and lightly packed into the orifice. The object of the preliminary step is to remove hair, blood, grease and gross dirt, and leave a smooth, clean, dry skin for at least eight inches in all directions from the margins of the wound. Such agents as will attain these results, without additional traumatism, may be selected by individual operators to suit their own preferences.

The second step is the toilet of the wound.

The surrounding skin is protected by suitable, but temporary, sterile drapery. The tampon is removed, gross dirt eliminated, shreds of nearly detached tissue are excised, accessible blood-clot is withdrawn, and the cavity is very gently flushed with some mild antiseptic. Ether has given much satisfaction in the flushing, largely because of its rapid evaporation. After the wound has been dried, the surgeon may or may not elect the expedient of filling the cavity with a dilute solution of methylene blue, to map out all the ramifications of the tract. War wounds, caused by shell fragments or high-velocity bullets at close range, were apt to show much fragmentation of the tissues, and present deep fissures running away from the main tract. The wounds of civil life are not so extensive, as a rule. Occasionally, however, methylene blue will prove a valuable aid. The wound should be again lightly tamponed, the temporary sterile drapery discarded, and all recent soiling of the skin removed.

The last step is the sterilization of the surrounding skin. Three and one-half per cent. tincture of iodine has been found very satisfactory. Anything which may have become contaminated in the preceding steps is unhesitatingly discarded. The final sterile drapings are applied, and the surgeon, his assistants and the nurses approach the operation proper with absolutely sterile gloves, gowns, etc.

The members of the surgical team must set about their task with definite concepts of their duties. A high degree of teamwork must be developed. Débridement has the peculiarity that at the outset the field is grossly contaminated, and that at the conclusion the field should be sterile. It is not such a procedure as a herniotomy, where the field is uniformly sterile thruout,

nor like the drainage of an abscess, where it is conceded that the field becomes more infected as the operation progresses. It is more like the removal of an ulcerating malignant tumor, every precaution being necessary to prevent the inoculation of the wound with tumor cells. Contact with the wound should be mediate thruout. No one but the surgeon and his assistants, and the fewer assistants the better, should approach the wound, and their contact should be entirely instrumental, with scrupulous care to avoid the contamination of their gloves. It must be instinctively realized that as instruments and wipes are brought into contact with the wound they become as contaminated as the wound itself, and can in turn contaminate all things with which they come in contact. Once used, they should never be returned to the sterile tray, but should be discarded, to return to use only thru the channel of the sterilizer. Accordingly a very definite scheme for manipulating supplies and instruments should be adopted. The central supply source must be in charge of a sterile nurse, and must not be approached by the surgeon or his assistants. Instruments, wipes, etc., for their immediate use must be laid out on an accessible tray or table, and this tray the nurse must consider unsterile ground, with which she may not come in contact. Furthermore, once the surgical team has taken up an instrument, or a piece of gauze, from their tray, and brought it into contact with the wound, they may not return it to that sterile tray, nor lay it down, but must discard it into a basin provided for that very purpose, whence it may be removed for resterilization and return to the central supply source. To carry out such a technic requires well-developed teamwork, and a very high de-

gree of aseptic instinct in each of the members.

The operation proper should go forward in orderly steps. The first step is the excision of the traumatized and contaminated skin edge. All that has been devitalized must be removed, and the line of resection carried back into healthy tissue. However, care must be taken to preserve all viable skin, to facilitate the ultimate closure of the wound.

All instruments so far employed are discarded, and with a fresh supply the subcutaneous tissue is attacked. This is apt to suffer over a wider area than the overlying skin, and a very free resection of all traumatized tissue is in order, the line being carried beyond the accompanying edema. Hemostasis should be carefully secured. Upon the completion of this step, all the areas so far cleansed should be protected by pads moistened with some mild antiseptic, such as Dakin's solution, boric acid solution or 1-5000 permanganate, etc.

The surgeon now approaches the deeper structures and must conserve everything possible for functional reasons. Devitalized muscle, however, is excellent culture medium, and should be sacrificed without hesitation. It is recognized by the bluish or purplish tint, the loss of contractile power, and the absence of bleeding over the cut surface. It should be freely cut away, either by scissors or knife, until viable muscle is encountered. The latter is recognized by the crimson-red tint, irritability to stimuli, and the bleeding or "serum-dew" which should form almost at once on the cut surface. Viable muscle is comparatively resistant to bacterial invasion. Fascia is not equally prone to the effects of traumatism, but, on the other hand, it has not the same recuperative power that the more vascular

muscle possesses. All shreds and frayed edges should be cut back to sound attachment to the underlying nourishing structures.

In the event of a fracture, great care should be exercised to preserve every possible shred of periosteum, removing only the manifestly contaminated portions. Bone fragments, unattached to periosteum, are as other inert foreign bodies, and should be removed. Minor fragments with periosteal attachment should be carefully cleansed and allowed to remain in their anatomical positions. In securing the position of the fragments it is well to avoid the introduction of any foreign bodies (plates, screws, wire, kangaroo tendon, etc.) into the wound.

Wounds of the joints have given excellent results with débridement and primary suture. War experience showed a surprising degree of resistance to bacterial growth, on the part of the synovial membranes. All detached fragments must be removed, but otherwise the joint surfaces should be preserved intact.

Tendons are easily cleansed by the resection of frayed ends and edges. Severed tendons can then be reunited, but their chances for life are better if they be buried in highly vascular tissue.

No nerve should be sacrificed unless it is hopelessly damaged. Every effort should be made to unite severed nerves, even though no functional restoration is to be expected from the primary union. Subsequent operation is vastly facilitated if the continuity of the nerve is preserved. Of course, contaminated nerve tissue must be excised.

Cases of vascular injury will tax the judgment of the surgeon. Traumatized veins should be resected without compunction, but if an artery be damaged there is serious question whether the collateral cir-

culation will suffice, in event of resection, or whether secondary hemorrhage or traumatic aneurysm will follow an attempt to save the vessel. If pulsations are not transmitted beyond the point of injury the artery should be resected without question. If pulsations are transmitted, leaks should be repaired by lateral suture, and the vessel buried in the adjacent muscles as an extra precaution against secondary hemorrhage. However, the surgeon must be ready to control a secondary hemorrhage at any moment, or to subsequently treat an aneurysm.

As the operation proceeds, step by step, foreign bodies should be removed as fast as encountered, and the pockets in which they lay most thoroly débrided. They are the agents that bring bacteria into the wounds, and during the period of contamination the great bulk of bacteria will be found along the skin margins and in the immediate vicinity of the foreign bodies. The surgeon must be liberal in his interpretation of what constitutes a foreign body, and must include not only material introduced from without, but also all non-viable matter, such as devitalized muscle, detached bone fragments and blood-clots. Clots form excellent culture medium, to say nothing of producing pressure on the adjacent tissue. As clots may form after closure of the wound, it is very necessary to secure thoro hemostasis.

As soon as the débridement has been completed, and hemostasis secured, the wound cavity should be gently irrigated with a mild antiseptic, and carefully dried. New sterile drapery must now be placed about the wound, new sterile instruments and supplies provided, and the surgeon and his assistants, with changed gloves, can complete the final steps as tho the wound

had been absolutely sterile from the beginning.

Unless there be present one or more of the factors that contraindicate immediate primary suture, the wound should be closed tightly by approximation of the skin margins, after careful anatomical reposition of the underlying parts, and obliteration of dead spaces. In addition to the contraindications previously mentioned, one other condition may here be encountered for the first time. So much tissue may have been sacrificed that closure is impossible without undue tension. If the wound can be closed, it should be done tightly, preferably without drainage. Occasionally it may be advisable to drain a recess of the wound for a few days by strands of silk-worm gut or rubber tissue; never, in these cases, by gauze.

If immediate primary suture is impossible, delayed primary suture may still be possible, especially if no anatomical or fundamental physiologic barriers exist. The sutures are placed in position at the conclusion of the operation, the wound is packed wide open with gauze, which may or may not be moistened with a very mild antiseptic, and the injured part placed at absolute rest for from two to five days. During this period there should be no further dressing and no antiseptic treatment, unless some compelling emergency arises. At the end of that period, under the same strict aseptic precautions that characterized the operation, the dressings are taken down and the wound thoroly inspected. If there is no pus, no inflammatory reaction in the tissues, and if smears from the depths of the wound show less than one microorganism per field, the sutures may be drawn snug and the wound closed. If there is evidence of inflammatory reaction, and especially if

there is a purulent exudate, the suture cannot be completed, but the wound must be left open and treated as an infected wound.

The aftercare demands the close personal attention of the responsible surgeon. It is important that the part be kept at absolute rest. Bed and splints should be ordered without hesitation. The patient, as before emphasized, must remain under hospital observation for from seven to ten days. During this period the less the wound is disturbed, for dressing or inspection, the better it will be. Careful watch must, however, be maintained for infection, secondary hemorrhage, or trophic changes distal to the site of injury. Evidences of infection demand a prompt reopening of the wound and its further treatment as an infected field. Once it is certain that the suture is going to be successful, say after ten days of a thoroughly satisfactory postoperative course, physiotherapy may be actively utilized to hasten the restoration of function.

With a proper technic, with sound judgment, and with increasing skill in débridement, 90 per cent. or more of success should be obtained in this field of surgery.

The procedure as outlined is tedious, it is hard, it is exacting in its demands for the immediate attention to wounds, it requires great effort on the part of the responsible surgeon. Will not less cumbersome procedures answer the purpose just as well? No, they will not. We are too familiar with the late results of incomplete treatment and of delay to feel that traumatic surgery cannot be greatly improved. Do the results of all this labor justify the expenditure of the necessary time and energy? They do. A successful primary closure means less suffering to the patient, a shorter convalescence, an earlier return to home and to work, an earlier and a better func-

tional result. To the surgeon it means the rapid and favorable termination of a case that is fraught with difficulties. To the hospital it means the rapid liberation of a bed, great saving of dressing material, and saving of nursing energy. Especially in the field of industrial surgery is it of great economic value, by saving limbs which might be lost thru infection, by reducing from 25 to 90 per cent. the period of disability, and by assuring a functional result vastly better than that following the slow cicatrization of an infected wound.

Thruout our civil institutions there should be developed a new attitude toward infected wounds and traumatic surgery. The subject should receive more emphasis in the medical schools. Too often the care of infected wounds is delegated to the most recent member of the hospital house staff. An infected wound requires more skilled attention than does a clean one, and the prevention of infection in a contaminated wound is a still more difficult problem. Infected wounds were not beneath the dignity of Carrel, and a very remarkable chapter was written into their history.

Too frequently lacerated and contused wounds receive their treatment in accident room or ward—a douche of iodine and a few sutures. Sometimes these efforts succeed, but more often they are followed by weeks of dressings for an extensive infection. These wounds require immediate care at the hands of a man who has already completed his apprenticeship, and has demonstrated his qualifications as a surgeon. Traumatic surgery was not beneath the dignity of the ablest surgeons of the belligerent countries, and the results obtained far surpassed the ordinarily accepted standards.

This paper embodies nothing new. It is

a résumé of what has been done in the past. It repeats part of the lessons taught to the medical officers of our army, ere they were entrusted with the care of the wounded. It describes a technic that has proved practical and effective in a big city hospital, and quotes figures of success actually attained. It is a plea that traumatic surgery and the surgery of infected wounds be raised to a higher level, and that the victims of accidents in civil life receive, even in times of peace, the same care and attention that was bestowed upon the wounded in the stress of war.

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SOME OBSERVATIONS ON CHARACTER CHANGES IN NEUROTICS.

BY

ADOLPH STERN, M. D.,
New York City.

That certain incidents, or that even a certain incident, in the life of an individual, may have a decided influence on his career, or at least on his character, is a truism that needs no repetition. I wish to point out, in the following extracts from case histories, the nature of these incidents and their corresponding psychic results. In many respects both incident and result differ from what are generally recorded, especially outside of psychoanalytical studies, and on that account perhaps they are worth emphasis. An interesting and important point to be brought out is, that altho these psychic results follow definite incidents, yet the

former have close connection with already existing emotional characteristics; these in turn are the result of the interaction on the one hand of so-called constitution or predisposition, and on the other, of environment or experiences of early childhood. So that the manifest changes in character evident at the time of the apparently causative incident are in reality only superficially caused by such an incident.

Some explanation of the method of presentation may help to the understanding of the subject by those not well acquainted with psychanalytic studies. I shall give extracts from the histories of several patients suffering from psychoneurosis, in whom outside influences apparently caused changes in character. The character changes which are dealt with here, have a close analogy to neurotic symptoms, chiefly I would say in that repressed and at times unconscious elements enter into their formation. Because of the existence of changes in character due to experiences in wholly normal people, and because as a matter of fact even in the case of the patients from whose histories the extracts are taken as illustrations, some of these character changes were in no way connected with the symptoms for which the patients sought treatment, a study of such changes may throw some light on phenomena previously frequently observed, but perhaps not well explained.

I by no means wish to imply that the findings in the individuals under consideration are generally applicable. However, the fact that they were obtained in neurotics should not in itself be held to restrict their general applicability. For it may now be granted that the study of neurotics has demonstrated the absence of a qualitative difference in the mental processes of normal

and neurotic. The difference is a quantitative one. The scarcity of material offered is in itself good reason for not applying the findings generally.

In the course of a psychoanalytical treatment, it regularly happens that aspects of the patient's life apparently unconnected with the symptoms for which the patient seeks relief, come under investigation. At times such studies of apparently irrelevant material demonstrate the existence of a definite relationship between symptoms and such material. It happens also that at times such studies serve to bring to light, not the intimate relationship between such apparently irrelevant material and symptoms but rather their mutual relationship to or origin from a common repressed impulse or set of impulses. Lastly, as previously mentioned, some of the accessory findings have no bearing on symptoms; yet they give us valuable information in regard to the emotional constitution of the individual. In the cases under consideration, the last two conditions are predominantly present.

With these preliminary remarks we can go on to the subject of the paper.

Some interesting psychic changes took place in a patient under observation a few years ago. Before the age of 14 years, the most characteristic mental traits were an intense ambition to be big and strong, combined with marked hostility to men in general; a feeling of superiority, which manifested itself very guardedly and unobtrusively. With all, went a conscious feeling of inferiority, doubt, hesitation and inability to come to a decision. There was present also a fear of a physical encounter of any kind. He was secretive and seclusive. In general he was very submissive, though he secretly nursed phantasies of a revengeful nature towards his father, older boys and some of his teachers. At school he was very obedient and a decidedly inefficient pupil.

In his fourteenth year, the incident took place which had such a remarkable result. For some minor offense the father decided to punish the boy by whipping him. The boy became very angry, and for the first time in his career openly rebelled. He caught his father's arm in the act of striking. A feeling of elation, strength and an impulse to strike his father took hold of the boy. But in a flash he realized that the result might be disastrous to himself. The father, however, at once desisted in his attempts to whip his boy. It occurred to the boy that his father was now afraid of him and that he, the patient, was master. The patient feared to bring the situation to an issue, and was content to feel that he was now, not only a man but the Man, and thought that his father felt the same way. While a desire to demonstrate this was present, yet the boy felt it was unsafe to go any further and left matters as they were. Fear and hate of his father continued unabated, though he consoled himself with the thought that his father was now afraid of him.

A change in his standing at school took place immediately following the above incident. From being an inefficient pupil, he went to the head of his class, and maintained a high standing in high school during the two years he was in attendance there. Changes in his emotional life also took place. In general, he felt better. A feeling of exhilaration was present. He gave expression to his feelings. He became a braggart and narrated to his acquaintances many (imaginary) physical encounters in which he came off victorious. He told of many sexual experiences, all purely imaginary. A very curious trait was a newly acquired excellent memory, which up to this time was very poor. This had struck the patient himself as rather remarkable, and even before he underwent analysis had explained the phenomenon as a necessity, owing to his telling so many different stories to so many different people. He needed a good memory to make sure that he was not caught in a lie.

Athletic activities were undertaken and pursued with vigor and enthusiasm, not only for the enjoyment derived from them, but also for the feeling of strength produced. He felt himself strong, powerful, fit to cope physically with almost any individual, secretly hoping, however, that no occasion

arose for actual demonstration of this fighting desire but trusting to a display of strength as evidenced in his strong physique or in his athletic activities, to settle any argument.

In his eighteenth year an apparently trivial incident was the cause of very interesting, but somewhat different changes in his psychic make-up. The patient was in a friendly wrestling match with his brother, some three years his junior. Their father was standing by watching the contest. It seemed to the patient a very simple and easy task to throw his brother; however, he soon found that the younger boy was stronger and more agile than he had anticipated, and felt that, even though he (the patient) exerted himself more than he had expected to do, yet he ran the risk of not being able to win out in the contest. The patient decided to call the match off, so as not to risk a failure. He felt that he had given the impression to his brother that he could have thrown him had he wanted to do so. He remarked casually that he wanted to stop, being tired of the sport. However, there was a lurking suspicion in his mind that he saw on his father's face an amused smile, as if the latter had realized that the patient was no match for his younger and smaller brother, and divined his motives in stopping the wrestling bout. This was a sad blow to the patient, for all his fancied superiority in strength over his father had in a moment been destroyed. Far worse still, his father had been an amused witness of the whole procedure. The resulting thought process was somewhat as follows: "If I cannot throw my younger brother, surely my father need not fear me." According to the psychology of the patient, the weaker must fear the stronger. And now he was the weakest of the three, inasmuch as the younger brother granted to the father, unquestioned superiority in strength, as far as the patient knew.

This incident led to efforts in two directions. Firstly, he took increased interest and concern in athletics and strength-producing exercises, which would result in physical evidences of strength, for which now more than ever there was great need. Now he must overawe people and convince them of his strength by a display of it, without putting it to a test, for a test had only recently resulted almost in a failure. While

the patient suspected that both his father and his brother had doubts as to his own physical strength, yet he would by no means fully admit this to himself. He argued that there was strong evidence to point to his lack of superiority in strength, but he rejected the evidence and insisted to himself that he was the stronger and made strenuous efforts to make himself so, yet at no time was he willing to be put to the test, seeking to convince people of this by appearing strong physically. In this added interest in athletics there was at times present, consciously, the thought that he must become stronger and more agile, so as to be a match for his father and his brother. Much of the enjoyment that he had formerly, during the time that the feeling of superiority existed, derived from athletics was now absent; it was replaced by an anxiety and feverishness to become stronger quickly. Athletics had now become a grim task and a stern necessity, for he felt his sense of superiority in strength had been rudely shaken, even, tho, as I mentioned before, he did not fully admit this to himself.

About two years before the incident which had thrown such consternation into his camp, the patient had left school to go to work, the income of the household being at this time insufficient to meet the demands of the increasing family, for now the patient was the oldest of six children, and the father, at no time a good provider, was making but little money. At first the patient had resented his being taken out of school, and worked with little interest, changing his position frequently; in fact, he was on one occasion discharged for inefficiency. At the time of the wrestling incident, the patient was employed in what to him were congenial surroundings, at a good salary. It occurred to the patient that now was a good opportunity to seek to excel his father in a field in which no test of physical strength would ever be demanded of him, namely in the saving and making of money, and in contributing an increased amount of money to the family, in fact an amount greater than he thought his father could contribute. In this way he could gain a superiority over his father in a way that would insure to the patient unchallenged success, for his younger brother was still at school, and the patient had had for

years back contempt for his father's earning capacity. He became an obedient worker, eager to please his employer. A very strong ambition at this time was to save money; and in indirect ways he let his father know that he had a savings bank account of good size. At this time he loaned about three hundred dollars to his father. He did not lend the money gladly, but felt a joy that his father had come to him for help; he also had a secret pleasure in the hope that his father would not be able to repay the loan and that he would have his father at a disadvantage. In these various ways the patient could demonstrate the father's inferiority in money power, and by increasing his contribution to the support of the family attempt to subordinate the position of the father as head of the house.

As time went on, the father became in the eyes of the patient a figure of diminishing importance. As a matter of fact, the earning capacity of the father did diminish and that of the patient increased. So that the latter had now facts, acknowledged implicitly if not explicitly by his mother, that convinced him of an established superiority in money contribution, which to the patient symbolized superiority or priority in point of consideration from the other members of the family.

In his own estimation, the patient had now achieved what he had so long sought, namely to displace his father as head of the house. Athletics soon after this lost the interest, in view of the excellent substitute found by the patient. It is interesting to note that with this there was re-established firmly, a sense of superiority over his brother also, this having been rudely shaken at the time of the wrestling match. As the father's earnings declined, the sense of superiority of the patient increased. When, however, the younger brother began work, the same fear that he may become rival took hold of the patient as that which became conscious at the time of the wrestling bout; and only the continued inability of the younger brother to make as much money as the patient did, gave the latter, this direction also, that sense of security, a feeling of superiority, which seemed necessary to a feeling of well being.

In summing up, we will go back to the early boyhood of the patient, and trace

this phase of the character development say that even before the age of fourteen, at the time of the incident with his father, that the desire to demonstrate his superiority in strength was present, but he saw no opportunity to proclaim it, let alone to test it, without fear of defeat. As a matter of fact, before the age of thirteen or fourteen, the patient was very ambitious, but along lines that he dared not reveal. Phantasies, which he carefully guarded, were the main source of outlet for intense desires to grow up quickly and to be strong, so as not to be under the domination of his father, towards whom he had a conscious hate. Moreover, the contents of many of his phantasies were of a highly erotic nature, the discovery of which meant disgrace and punishment. He was secretly and guardedly disobedient, eager but afraid to defy his father. In school he had keenly disappointed his parents' expectations. The patient had felt a secret joy at their disappointment, as if it had not been worth his while to please them. Only that meant success to him, which would establish for him a superiority over his father. So that, until the opportunity to accomplish this state presented itself, his ambitions remained submerged, without attempts to realize them as such or in substitute form. However, when the opportunity did seem to present itself with good prospect of success without fear of defeat, or better still when the patient felt success at hand without being put to the test and running the risk of defeat, then he took advantage of the situation and sought to establish for himself a position of security and domination in the family, or in whatever situation he happened to be.

It is possible to demonstrate at this point that the one great desire of the patient to surpass his father and become the head of the house seeks fulfilment by making use of a number of trends which have origin from the psychoanalytic point of view, in different sources of the libido. To demonstrate this, however, would take us too far afield. It is of interest, however, to note that this same repressed desire was one of the principal factors in the formation of a severe compulsion neurosis when the patient was in his twenty-fifth year, and a recurrence of the condition three years later. We can say also that at least in the present instance, changes in character were only

partly due to outside influences. These changes were dependent also on deep-seated impulses, some of them unconscious which, so to speak, found expression thru these outside influences. It might also be mentioned that an apparently trivial incident may cause decided changes as in our patient, because of the unconscious factors enervated by the incident or, perhaps better expressed, because the unconscious repressed wishes or impulses seeking outlet or expression find in the incident an acceptable or suitable means for expression.

We shall now present two other instances of character changes, differing somewhat from the former instance.

Two of my patients showed apparently a definite change in character after leaving school, a common feature in both being a sense of loss and a feeling of doubt and uncertainty in what they did and thought. In neither of these cases have I extensive material at hand owing to the incomplete analyses made. I feel, however, that the analysis has given sufficient basis for the deductions made. As I mentioned above the changes took place when the patients as boys left school. It had been the intention of the parents of both boys to have them complete their education, but owing to the death of the father in one case and monetary difficulty in the other, the education had to be discontinued.

The former of the patients, an only child, was a slavishly obedient, ambitious boy, bright and eager to please his teachers, jealous of any marks of favor shown to any of other pupils. This jealousy, among other feelings prompted him to most intense effort to stand high in his studies; and owing to his studiousness, brilliancy and good behavior, he succeeded in reaching the head of his class and holding the position during the greater part of the school course. He won the approval of his teachers, which he valued very highly. In this way he won the approval of his father also. His father he greatly feared and also greatly respected him for his knowledge, secretly hoping to excel him in this respect. Following the death of the father of the patient, the mother decided to discontinue the boy's education and to have him take up a business career. Accustomed to do as he was told, even tho he felt there were sufficient funds to enable him to carry on his education, he

made no protest, but attempted to carry into effect to the best of his ability, his mother's wishes. He at once felt a big handicap in this respect, for at school he had been a poor mixer and had taken only a minor part in the boys' sports. He feared to meet people, and had a strong aversion and some contempt for business people. In his mind they were sordid, material and far removed from his ideal of intellectual standards which he sought to reach. Moreover, praise and commendation, which were so necessary to him to feel secure and contented, had now to be sought from those to whom he felt almost consciously hostile and with whom he felt totally out of contact, namely from business people. Up to this time a rather happy, studious, ambitious boy, with a feeling of security and a sense of certainty about himself only in relation to his most important activity—study—he now became rather sullen, seclusive, with no feeling of assurance in respect to his most important occupation, namely, that of making a living in a business world. He now had to compete with those whom he despised, and found to his great disappointment and with resentment that they excelled him in those traits which meant material success, tho they were inferior to him in learning. He developed a feeling of inferiority, a prominent characteristic at the time he came for treatment.

The feeling of inferiority which the boy developed at this time, had in reality been present previously, but now it became more pronounced and conscious. This had manifested itself in two ways, even before his twelfth year. Somewhere about his tenth year, the patient heard what he thought was a derogatory remark made by his father concerning a slight blemish on the patient's face and his short bodily stature. To this day the patient thinks that this blemish is conspicuous and that people comment on it. Another evidence of the sense of inferiority became conscious to the patient, when in his thirteenth year the patient saw one of his companions display his strong, splendid muscular physique, and heard him exclaim with delight of the pleasures of fighting and wrestling. The patient felt his shortcomings in this direction. In a sense and in a measure some compensation for these deficiencies was obtained in praise and commendation from his parents and his teachers

for his scholastic excellence. However, when he was compelled to leave school, he attempted to adjust himself to an unfriendly environment. In a great measure the patient felt he failed, and then the sense of inferiority colored very many of his activities.

The other of the two patients was brought up under somewhat different surroundings. Even before the age of six, the patient, for a time the favorite, considered his father an inferior sort of man, whom he disliked and frequently disobeyed. This early period is recalled by the patient as a distinctly unhappy and unsatisfactory one, especially following the birth of the third child, who in a way displaced the patient from his position of the favorite one. At the age of six the patient went to a boarding school in which up to the age of sixteen, were spent ten fairly happy years. On admission to the school he was the youngest and smallest boy in his class. A good looking, energetic little fellow, he soon became a favorite among the big boys, who made much of him and were in the habit of kissing him, a procedure that gave him a great deal of pleasure. He was mischievous, at times rebellious and delighted in teasing and annoying his teachers, especially because he noticed that being a "bad boy" won applause from the bigger boys. Being a good student and in addition one of the richer boys in the school, he was given more consideration on the one hand by the teachers, and on the other by the boys, than would have been the case otherwise. All in all, he maintained both with the teachers and with the boys a certain position of assurance tho as one can readily see a rather precarious one.

During his sixteenth year he was told that his student career was over, owing to the poor financial condition of his father's business. This was the first inkling the patient had that his father was not a rich man. The patient had been preparing for the career of a lawyer, tho not from choice since he had no liking for law. The profession had been chosen for him by his father. After leaving school the patient went into his father's business, thinking that he could straighten things out and put the concern on a firm basis, with the aid of his father. In this he failed badly. As a result, a feeling of insecurity and inferiority

which had taken hold of him immediately on his learning that he must stop his schooling, developed very consciously, and was the cause of much mental unrest. He now found himself in an environment which he disliked, and in which those characteristics which won for him in school a position of security and content, were valueless in producing for the patient any commendation, praise, or any evidence of being liked. Yet he so felt the need of these. Other characteristics, among them aggression, had not manifested themselves while he was at school, and he could not develop them in an unfavorable environment, such as business life was to him. In addition to the feeling of inferiority, there developed moroseness, exclusiveness and shyness, a set of traits which had existed in his pre-school period.

In this patient also, just as in the two preceding individuals, the psychic changes manifesting themselves chiefly in the feeling of inferiority or superiority, were but conscious evidences of underlying trends, themselves not so conscious, but none the less present at a time previous to the happenings which brought the changes in characteristics. The deciding incident acted as a release to the emotional traits already present. While these illustrations are taken from neurotics, yet on account of the close analogy between the mental processes in both, similar changes in the normal may be found, and these may perhaps be explained along similar lines. Further work along these lines should prove very interesting.

40 W. 84th Street.

OUR NATIVE ELEMENT.

BY

W. B. KONKLE, M. D.,

Montoursville, Pa.,

Into the atmospheric air we are born, never from its vast depths to be withdrawn but by the hand of death. In it we live and move and have our being. As related to us it is universal, boundless, indispensable—it is everywhere, it has no shores, with it our existence is indissolubly joined. It is our vital medium, our essential habitation, our enveloping, intimate, sustaining ocean, our prison-home without doors or walls. The substances necessary to the preservation of our life are food, drink, air—these three; but the chief of them is air. We may live weeks without food, days without drink, but deprived of air we straightway die.

The atmosphere we breathe being thus absolutely requisite to the continuance of our animal existence, the quality of it is a matter of paramount importance—as important as that of water is to aquatic animal existence. Its components and the natural scale of their proportions, its conditions and the normal range of their variation, its relative pollutions and the extent of their possible control—all these are questions of the utmost significance and consequence—are pregnant with interests fundamentally pertaining to human life. These factors enter inseparably and largely into the problem of the fullest development of health and of its most stable maintenance. These same factors are deeply involved in the process of recovery from disease states. The skilful regulation and adaptation of air constitutes a potent curative measure. Practically viewed, as reasonable would it be to expect a sick fish to get well in a swill-

The Editor of the London Lancet knighted.—It gives us great pleasure to learn of the signal honor recently paid to Dr. Sprigge, editor of the grand, old London *Lancet*, who has been made a Knight of the Realm. Medical editors in America so seldom receive anything but criticism, abuse and condemnation, that it fills us with new hope and cheer to find out there is one country at least, that places some value on the labors of its earnest medical editors. Perhaps some day the medical editors of this country will be given a little credit for their faithful efforts in a hard and stony field of activity.

barrel as to expect a sick man to get well in a correspondingly vitiated atmosphere. Indeed, it is easily conceivable how by gradual modification and adjustment of the self-same factors human beings might undergo variation of nature, temperament, capacity.

Keen, accurate observer that he was, Hippocrates attributed to the air a supreme influence upon life, health and disease. Thruout his writings, the thought appears and reappears. It is the dominant note in his treatise, "Concerning Airs, Waters and Places." He says, "The atmosphere is the most powerful agent of all and in all.—From what is it absent, or in what is it not present?—The airs are in all maladies the principal agents.—I have established that the atmosphere, as in all else, is also sovereign in the bodies of animals." Erudite cyclopedist, subtle critic, discerning eclectic, Celsus, in his "Treatise on Medicine," devotes much space and time to seasons and weathers as causes to be reckoned with in the study of bodily conditions, tendencies and ailments. Montesquieu, perspicacious, judicial, thoro, in his work, "On the Spirit of Laws," Voltaire's annotated exceptions to the contrary notwithstanding, makes out a strong case for his thesis that climate plays a large part in the molding of peoples and in the determination of historic events. But, after all, what meaning have these terms weather, season, climate, other than as expressive of collective and composite concepts referable in the last analysis to the complex states, modes, changes of the atmospheric air?

Despite the disdain and derision of the scoffers and mockers sitting in the seat of the scornful, chickens, tree-toads, ants, snails, and the rest of the "faculty," are gifted with *aëroscepsy*—*do* instinctively

interpret and indicate impending mutations of the atmosphere—*do* foreknow and foretell certain alterations or turns of weather. And is that circumstance so passing strange? Is it to be wondered at that an animal organism should react to the operations and processes of nature even more sensitively than the mechanical instruments of science? And just so gammer's corns and gaffer's "rheumatiz" *do* reliably forewarn of oncoming settled storm. Why make of the idea a butt of ridicule and sarcasm. This whole class of phenomena is, in sooth, on all fours with the larger series of established principles concerning the influence upon the body, sound or sick respectively, of variations of atmospheric quality as determined by seasonal transition, climatic complex weather perturbation, or the alternating features characteristic of day and of night.

Aërology, and especially meteorology which in accordance with our previous contention we would consider a coordinate branch of the former, has attained noteworthy development, and that, too, thru methods admirably systematic and scientific. Yet, in this domain resultant inductions have been mainly general, chiefly subserving no definite purpose, mostly lacking specific application. With reference to their bearing on health and disease, effort and findings along these lines savor strongly of the empirical. As experience sanctions or tradition persuades, or fashion dictates people, at this age or that age, a certain period of the year or another certain period of the year, go here or there to keep well or to get well. Of course, about this whole matter there may be much of imposture, and as much of delusion; but, nevertheless, the procedure usually bears the warrant of sound reason and good sense. The practice, however, would rest upon

far more dignified and trustworthy basis were custom and empiricism to yield authority preponderantly to controlled observation and accurate science.

The most striking limitation, the most regrettable defect, in the application of *aërology* to the service of hygiene and cure is that in this realm, besides practically depending exclusively upon nature for her combined products, we are compelled, as well, to both seek them and employ them in her own laboratory. We not only sorely need the things she makes, we also must get them and use them *where* she makes them. It is as tho we were obliged to go to the cinchona tree for bark, and then to take it camping beneath the tree. But how many folks could avail themselves of the benefits of cinchona in *that* way? And, similarly, what proportion of people can secure the sanitary and remedial advantages of appropriate meteorologic influence by travel to, and sojourn in, the particular localities where the indicated conditions peculiarly prevail? Well, if the man cannot be transferred to the desired climate, let the climate be reproduced where he is. If he cannot go in quest of the needed kind of air to the place where nature mixes it, let it be prepared for him artificially in his home section.

Is it utterly chimerical, hopelessly utopian, this idea? No; the plan cannot be considered as impossible—is, in truth, not even impracticable. Indeed, the scheme has already been signalized by some concrete beginnings. The therapeutic employment of modified air in cabinets, as, for instance, notably exemplified by the practice of S. Solis-Cohen, may pertinently be cited. Still the method has been only quite narrowly and tentatively exploited—is barely *en-*

tamée. There have been attempted no extensive alterations nor regulations of respirable air within confined spaces in conformity with priorly established conclusions of reasoned experience and laboratory research. There has been, furthermore, a dearth of preliminary experimentation and investigation. In short, the whole vast territory remains almost wholly virgin and fallow—invites exploration—awaits pathfinders.

A formidably complex problem is that of the atmospheric air, it must be admitted—we do not know all about its elements—we, perhaps, do not know all its elements, but, as we have maintained, the problem is solvable. Logically, the first movement should be analysis—analysis systematic, thoro, exhaustive. Then would follow synthesis—synthesis bold, comprehensive, enterprising. Upon the bed-rock of adequate analysis to what height may not synthesis build! Having exactly learned the composition and qualities of the various airs to be utilized, their artificial reproduction will not be beyond the pale of feasible achievement. And instead of their administration periodically for hours or minutes in a cramped cabinet, they might be introduced into chambers capable of practically continuous occupancy. And the desired effects might be heightened and hastened by emphasizing the active factors involved.

Oh! what a beautiful dream! But the audacious dreams of Jules Verne one by one are coming true—aye, more than true, truth again proving stranger than fiction. A scant decade separated the old “chug” nuisance from the swift and silent “eight.” A few paltry years measure the distance between Langley and the Wrights. And, at any rate, Rome was not built in a day.

POLAND—A MEDICAL ANOMALY.

BY

C. E. S. WEBSTER, M. D.,

South Bethlehem, Pa.

In 1910, science predicted the end of the world. On such a day and at such an hour the tail of Halley's Comet, charged with deadly poisons, would sweep the earth and wipe out every living thing on it. The scientists who ventured this prediction were men with international reputations and all the evidence they adduced had the precision and the incontestable verity which only science can achieve. Yet Halley's Comet came and passed and the world emerged unscarred.

Last fall, undeterred by the memories of this misadventure, the scientific world hazarded another prediction of world importance; Poland, during the coming winter, would be practically wiped out by a typhus epidemic and that country would become a pest-center which might contaminate the whole world with the dread disease. Once more science had all the precise data and the information to bear out such a prophecy. And once more it was mistaken. Poland remains on the map and the number of typhus cases in that country last winter was almost negligible; in fact, astonishingly below the estimate of even the most optimistic observer.

The failure of this second prediction on the part of science, the miraculous escape of Poland (and consequently all Europe) from a plague for which the stage was so perfectly set and which would have astonished no one had it come, constitutes one of the strangest medical anomalies of the present day. All my experience as American Red Cross Medical Director in Poland

pointed to the accuracy of the prediction, and today, in the face of the extraordinary situation, I can only hazard a few tentative theories to explain it.

After the repulse of the Bolshevik invasion in Poland last fall, it seemed to medical men familiar with the situation that all conditions were present which would render inevitable a great epidemic of exanthematic typhus and the formation in that state of a permanent focus which would render Poland a pest-center for this disease for a long time to come. The opinion of several observers who have had considerable experience with communicable diseases seemed to point to a huge number of cases, if not a sweeping epidemic. This opinion was firmly based on conditions which prevailed at the time.

Louse infestation was general thruout Poland. This was due to the fact that not only are lice universally present among the lower classes of Poland, but also to the fact that the distribution had been spread to the remote communities by soldiers returning from the army, soldiers who had not been deloused or disinfected before returning to their homes on leave or on discharge or by desertion. These men came back to their homes, which were markedly overcrowded, or were grouped together in camps in which louse infestation was the rule.

One may, therefore, conclude that in every district of Poland, even where there had been no lice before, the conveying means were present. To this circumstance must be added the low rate of nutrition of the population and the general lack of their usual diet. There was a marked scarcity of sugar, flour was becoming rarer and was of an inferior quality, and it may be stated that none of the working classes

were receiving or could obtain the amount or quality of food necessary to keep them in normal condition.

The vast number of refugees driven in from the region east of Warsaw were crowded into other towns of Poland, which already were taxed to their housing capacity. There had been no construction of buildings for several years, and all structures of any character were used to house this additional population. After the Bolshevik invasion, no special effort was made to return these people to their homes and those who did return found nothing when they arrived at their former dwellings. The result was that practically every available room was filled with people, packed close together and without any sanitary means or any effort to promote sanitary conditions. Even in Warsaw, where an attempt was made to prevent the influx of refugees, whole families would be housed in a single room, oftentimes harboring domestic animals and chickens in their quarters. This is true not only of the very poor, but of men who had regular employment and were receiving above the average laborer's wage.

People living under these conditions had no means of bathing or disinfecting their clothes, and the public baths could not accommodate the population even in the places where they were operating. In many localities there was such a shortage of fuel that bathing establishments were closed down. To this difficulty must be added the fact that there was very little soap and what there was could only be had at prohibitive prices. A change of clothing or of underwear was impossible for any of the poorer people. The public plants for delousing and disinfecting, moreover, were inadequate and in many instances were not operating, owing to the lack of material

and personnel.

There was no adequate attempt made to educate the masses in the necessity of cleanliness and the avoidance of louse infestation. Certain posters had been prepared, but none were to be seen in public places and the only posters seen by the writer were in dispensaries and in doctors' offices. These were of such a technical character as not to have a general or popular appeal.

Altho the Poles are great patrons of the cinema theaters, there was no antityphus publicity or educational attempt made thru this very ready and effective means of spreading knowledge as to the dangers accompanying louse infestation. There was plenty of patriotic and political propaganda, but no educational effort along health lines whatever; so that, apart from the general knowledge, there was no means of diffusing information as to the means of combating an epidemic.

Previous to the Bolshevik invasion there had been a number of disinfecting stations and the sanitary points operated along the eastern frontier and in the centers thru which a large number of people passed. These were driven in at the time of the invasion and, while some of them were re-established farther in the interior, they were not so situated as to produce any marked effect on the general condition of the westward flowing stream of refugees in so far as louse disinfestation was concerned. Furthermore, there was no means of compelling these people to submit to the necessary sanitary measures, so that the cordon which had been drawn against the infestation coming from the east might be regarded as non-existent. The local organizations at many of the centers, while in many cases excellently planned and well equipped, did not function adequately for

several different reasons. There was no actual means of making the people go to these stations and in many cases the stations did not operate owing to lack of water, coal, or of personnel.

There is an excellent station at the main railroad unloading point at Krakow, for example, where all the refugees coming from the east were supposed to pass before entering the city and pursuing their journey. The installation was excellent and the plan of operations well designed. But the plant was idle, tho thousands of people were continually passing thru, this being due to the fact that the coal supply was inadequate, that water was available only during a few hours each day, that the personnel were not properly trained in the operation of the machines, and that no authority was exercised in compelling people to undergo disinfection.

Altho the city authorities required a certificate showing that disinfection had been accomplished, this certificate could be obtained by those who desired it by the payment of a small sum to the employees in charge of the plant without the formality of disinfection. At the prisoner of war camp, at Krakow, if a prisoner desired to go into town to spend the evening, it was only necessary to give the guard twenty marks to be allowed to leave camp for an indefinite period. I do not mean this as a reflection on Polish character, but it indicates how difficult it was to secure reliable personnel in a plant operated by civilians when such conditions could have been much more effective under military authority.

By such procedures the men in charge of the plant were able to effect a notable economy in fuel—an economy that might have proved much more expensive than it did.

In addition to these difficulties, the efforts made by some of the American trains which were equipped to do bathing and disinfection were in many cases negated by racial and religious prejudices which they encountered. The Jews, for one thing, have, it appears, a ritual bath which is prescribed under special conditions and they do not feel called upon to take any other. In certain of the country districts, it is considered a disgrace to be told to take a bath, and in other regions it is regarded as a punitive measure. This feeling is so strong that in some places the trains were unable to do any work at all, while in others they reached only a fraction of the population.

It was at one such place that the commander of one of the trains appealed to the local authorities to assist him in getting the population to patronize the train. The local authorities stated that so far as persuasion and recommendation were concerned, they would assist him; but, as these measures met with no success, the commander resorted to vigorous methods. He had a particularly unclean citizen placed under arrest and taken before the magistrate to be ordered to be cleaned up, as he constituted a serious menace to public health. The learned jurist, after long deliberation, ruled that, as the Poles had been enslaved for 150 years and were now free, this citizen was at liberty to bathe or not as he thought best and that no measures of coercion would be tolerated or supported by the authorities of that area.

Here, therefore, we have the stage set for a national, perhaps a world, calamity. And, in spite of these favoring conditions, up to the present no great epidemic had developed in Poland. There are sporadic cases of typhus in almost all communities thruout the country, but these do not approach the

proportions of a real epidemic. Official returns on epidemic diseases, while not accurate owing to the difficulties in reporting and transmitting information, do not show any sweeping infection in any part of Poland.

What is the secret of this extraordinary situation? What is the solution of this anomaly?

It would seem that any single fact is inadequate to explain the absence of a nationwide infection and that we must conclude that there are several different types of immunity existing among the population. In the first place, there are a number of people who have an absolute immunity; that is, have had typhus fever at some time during their lives. It is quite possible that a large number have had this disease in childhood, when its manifestation may be so mild as to be confused with some of the other communicable diseases of childhood, particularly measles. Oftentimes this immunizing attack may not have been recognized, owing to the fact that many of the cases are never seen by a medical officer or by any one competent to make a diagnosis.

It has been suggested by some observers that a relative immunity may exist, due to an infection from an organism allied to the organism of typhus and producing the disease in an attenuated form which would not be recognized as typhus but would be regarded as a mild attack of some fever of unknown origin. It is also possible that there may be a certain hereditary or racial immunity due to exposure to the disease for many generations, the people having elaborated a sort of lessened susceptibility to this infection which is not possessed by others who have never been exposed to any of the forms of this malady.

In a population which has been constantly exposed to louse infestation, or which I might say is continually louse infected, it may be that a certain immunity to the louse bite may have been acquired, rendering the transmission of typhus more difficult and resistance more obstinate on the part of the individual. This last is believed to be merely a fanciful theory and not based on any scientific grounds.

An interesting observation in regard to this aspect of the case has been brought forward by some of the Polish observers. These state that the intellectual class, when infected by typhus, present cases which are clinically characterized by a much greater severity and a much higher mortality than in the peasant or presumably uncleanly classes of the community. From personal observation in a typhus hospital under my direction in Armenia, a certain amount of support for this view may be adduced. All the typhus cases in Prévan were brought to this hospital and, tho there were a large number of refugees in camps about the town and a large number of poor people in the city, the cases which came to this hospital were mostly from the intelligent and more refined elements of the population, professional men, university students and people who, in general, were not exposed to louse infestation. It may be further stated that in an American personnel of thirty individuals, there were four cases of typhus, altho these people were living in the best of sanitary surroundings and were exposed only temporarily or incidentally. This, I regard, as a significant fact.

In view of all this, it would appear that there is no great menace to the world at large from the present typhus situation. This statement is made in the knowledge that there is no great wave of typhus, such

as has been predicted, sweeping westward, and that to produce typhus in a population generally, certain conditions must be fulfilled.

First, there must be cases of typhus from which infection can spread. Second, there must be louse infestation to carry this infection from the feces to the population at large. So long as a race is not lousy it cannot racially have typhus. And, for a wave of typhus to spread over the western countries of Europe, it would be necessary for a large proportion of the population to have and harbor the typhus louse.

In so far as these conditions are not fulfilled, while there may be sporadic cases of typhus, no epidemic can be expected so long as the sanitary intelligence of the communities of western Europe remains what it has been and is at the present time.

TREATMENT BY THE USE OF DEAD CULTURES.

BY

LEO H. BERND, M. D.,

Philadelphia, Pa.

The attitude of the medical profession towards the use of bacterins, etc., is aptly illustrated in the first act of Bernard Shaw's "Doctor's Dilemma."

Since 1909, I have been using bacterins with such satisfactory results that until something better is presented I will continue to do so. My dosage, since the first year, has been much larger than usually advised and to that fact I ascribe my uniformly good results. The reactions are variable; sometimes small doses cause a reaction when none is expected; at others, large doses produce none. It is well to start on a comparatively small dose at first. I have

never seen any injurious results from this treatment.

The following conclusions are based on covering a number of years' use:

Generally four doses are required, but at times it is necessary to give as many as eight or more.

The injections are given where they are least painful to the individual. In some, over the sternum, others in the deltoid or the gluteals. Also they are injected into the muscle and not subcutaneously.

In chronic cases there is usually a mixed infection, especially when the seminal vesicles, prostate or epididymis are involved, and in women where there is involvement of the tubes and ovaries. In these cases I use, when an autogenous vaccine is not practicable, a mixture containing gonococci, streptococci, staphylococci and colon and pseudodiphtheria bacilli combinations. I have not operated on a tube infection due to gonococci in some years—all my cases clearing up from the use of bacterins. In one case, where both sides were involved, the patient has since given birth to a healthy child.

Ischiorectal abscesses heal more readily after the administration of a bacterin; in fact, in a case in which the culture was mostly colon bacilli, the result seemed almost magical.

In abdominal operations, usually, a mixture of pneumostreptococci and colon bacilli, 500,000,000 and staphylococci 1,000,000,000, are given. If there is much pus or temperature on the third day it is repeated.

In the Surgery Department of Barton Dispensary of the Woman's Medical College, staphylococcus bacterin is given routinely in all cases of furunculosis, acne, abscesses or ordinary infected wounds.

The initial dose in adults is one billion to ten billion. The bacterin is in suspension of five billion to the c. c.

All burn cases receive a bacterin containing streptococci five hundred million routinely. Since using the bacterin I have not seen a case of scarlet fever following a burn, where, as formerly, there were about six or seven yearly.

Nasal conditions, when not due to diseased tonsils or adenoids or anatomical condition, respond to a mixture of influenza and pseudodiphtheria bacillus, streptopneumo- and micro-coccus catarrhalis five million and staphylococcus pyogenes aureus and albus one billion to the dose.

The cases treated with four doses at about four or five days' intervals in the fall of the year have been practically free from "colds" thruout the year. If there is a beginning coryza, one dose usually stops the condition. So satisfactory has been this that practically no other treatment has been used for several years.

In 1917 several patients received a series of bacterins. I am told by one of my colleagues that none had the "flu" during the great epidemic in 1918, but that nearly all insisted on having a series of doses.

While in France, in the Casual Medical Camps, especially in the epididymitis cases, the results were most gratifying. One case of gonorrheal rheumatism in a soldier was treated with an unusually strong dose containing forty billion g. c., one billion streptococci, one billion colon bacilli and ten billion staphylococci. He had quite a marked reaction, chill, slight delirium and elevation of temperature for about two hours. I afterwards found out that he had slipped out and gotten some cognac. Just how much was cognac and how much reaction could not be determined. Never-

theless, his rheumatism got well and he was able to go to the front with his company.

In two cases of mine where tubercle bacilli were present, the non-virulent tubercle bacilli have been added. Both cases have gained on an average of twenty pounds.

The men on swimming teams who often are troubled with sinusitis, when treated with bacterins, seem to remain free from the trouble.

Systemic reactions seem to produce more prompt results in some cases than in others. At times the first dose will aggravate the condition but this quickly passes away. Should the patient be alarmed, a teaspoonful of ammoniated tincture of valerian will usually quiet him. Local reactions are not often of any moment, but if there is much complaint, application of cold, or painting over the area with colodion, is effective.

The Muscular Movements of Hiccough.—The production of this phenomenon has recently been studied by Roger and Schulman (*La Presse Médicale*, Feb. 26, 1921) using a pneumograph to record thoracic movements, supplemented by a radioscopic examination of the excursions of the diaphragm in a case of hiccough during the epidemic of last winter. They have shown that it consists of a double spasm, the first expiratory, which is noiseless and therefore usually not perceived; the second is inspiratory and is accompanied by a spasm of the glottis. Radioscopy shows that both domes of the diaphragm rise synchronously immediately before each hiccough. The esophagus and the stomach follow the movements of the diaphragm. The characteristic sound is, of course, due to the sudden inrush of air thru the narrow cleft of the glottis.



Rational Organotherapy

The Influence of the Sex Glands on Individual Growth and Mentality.—The sex glands have, it is claimed by Davidson (*Col. State Jour. of Med.*, June, 1921), the most profound influence on the individual growth and mentality. Puberty marks the beginning of their activity in which the skin shares. When this is excessive and the basic conditions are favorable, acne is the result. With the climacteric, the functions acquired at puberty are gradually lost and the whole of the bodily structures begin to decay. With the advent of the climacteric there comes a loss of virility. Man returns again to the asexual condition of childhood and effeminacy that denotes his evolutionary origin. The male is only a recent evolution, a secondary, and in the lower organisms an unnecessary factor. The Bible story of the creation is not physiologically correct, the woman must have supplied the rib. The climacteric in woman comes about the age of forty-five, and with man about sixty-two. The retiring age of employees in the civil service is sixty-five, a good physiologic choice with man, but it, on natural grounds, ought to be forty-eight or fifty for women, for after the climacteric most individuals simply vegetate, the mentality slowly weakens, it is the golden age of Eddyism. With some senility is long deferred, and the individual who retains his virility retains his mentality. One cannot have failed to observe that the men famous in history were not always renowned for their chasity, while almost the only famous women have been the infamous. The phallic worship of the ancients was but a tribute to glandular efficiency. That they worshiped the phallus as an emblem of the mysterious source of life was probably a secondary thought. The primal instinct, when man survived by physical prowess, was the worship of efficiency, and this he knew rose and fell with the functional activity of the sex glands. Lydston, by his operation of gland implantation, has proved the truth of this,

but his method for rejuvenation is likely to be superseded by that of Steinach.

While the endocrine glands all seem to support each other in the regulation of the vital forces, there are some such as the ovaries and the thyroid that mutually inhibit each other. This is the more probable in view of the fact that all life processes are regulated by stimulation and inhibition, for without these counteracting forces life would not appear possible. I think that it is necessary to remind you that life, even long life, is possible without the possession of the sex glands, and that this system must be considered as an accessory engine in the train of life, and as such it must contain in its endocrine functions both stimulating and inhibitory hormones. On this account it will be found that the ovary and Graafian vesicles are inhibitory one to the other, and this action regulates the menstrual functions and prevents the irregular and promiscuous discharge of ova.

When to Use Pituitary Extract.—The anterior lobe of the gland, thru its hormone, Hutton (*Ill. Med. Jour.*, Dec., 1920) maintains, presides over muscle tonus, skeletal growth and sexual development. If it is inactive prior to puberty, the person affected will have small hands; his stature will be short; the genitalia will be small; and he will lack masculinity. Usually, the temperature is subnormal, the pulse slow and the blood pressure low. A preparation of its hormone is indicated in children and youths showing Froehlich's syndrome and other signs of retarded development, especially affecting the sexual organs, with features resembling the eunuch; also in adults lacking normal virility.

The posterior lobe plays a part, along with the thyroid in regulating metabolism. It also maintains tonus of involuntary muscles, as the arteries, intestines and uterus. Deficiency of its secretion gives rise to mental apathy, atonicity, adiposity, debility, low blood pressure, arrhythmic or quickened pulse rate and heat flushes. By giving an extract or solution of the gland, one can amplify and slow the pulse and increase arterial tension. It is useful in runaway

heart, especially in infectious diseases. But its chief use to us, is to excite uterine contractions in labor and to arrest postpartum hemorrhage. For these purposes, a solution given hypodermically is said to serve better than adrenalin, in that the effect is longer sustained. However, it should not be given where abnormal thinness of the uterine wall is suspected; nor in arteriosclerosis; nor in the early stage of labor. Other uses for pituitary extracts are shock, enuresis, dysuria, diabetes insipidus, meteorism, intestinal atony, metrorrhagia, among others.

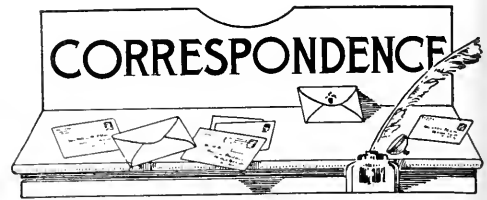
The Froelich Form of Hypopituitarism.—Kay expresses the opinion (*Endocrinology*, May, 1921) that his case is one of the youngest cases of the Froelich type of hypopituitarism to be noted. The child was a full-term baby; delivery was easy. It had always been breast fed and had suffered from no acute illness. Development was apparently in no way remarkable until the third month, at which time it was noticed that the weight began to increase rapidly. The mother also noticed that from this time on the mentality of the child was regressing; its stupidity becoming more and more pronounced. Sleep was almost continuous, and the waking moments were devoted almost entirely to feeding. The child did not sit up until the eighth month and at the ninth would not sit alone, and supported his head with difficulty. The feedings were taken quite well, and there was a mild constipation. A very marked polyuria was present. Treatment was started with thyroid extract, one-fourth grain, three times a day, whereupon the polyuria immediately disappeared, the protrusion of the tongue ceased, and the dribbling of saliva stopped. The thyroid treatment was gradually increased in amount, and very shortly pituitary (whole gland) was added, in increasing dosage, until at the time of the report, the child is taking 3 grains of thyroid extract and 9 grains of pituitary extract daily. Almost immediately the somnolence decreased, the mental condition improved and the child now notices objects and will reach for them. He could at the date of the article (December, 1920) stand, by holding on to a chair. The weight had remained constant.

The Eye in Pituitary Disease with Acquired Syphilis.—According to de Schweinitz (*Arch. of Ophthalm.*, May 6, 1921) none of the ocular symptoms depending on pituitary body disease is of itself characteristic of acquired syphilis, and these symptoms, therefore, do not differ from those exhibited by patients who are not syphilitic. It is possible, even probable, that a careful analysis of cases of pituitary body disorders, with exterior ocular muscle palsies, would show a greater incidence of such paralysis in syphilitic subjects, especially in secondary involvements from bony or dural syphilis. Naturally, if a patient with acquired syphilis develops the symptoms of hypophyseal disease, active specific treatment should, and would, be instituted. If in such circumstances the gland itself is not either primarily or secondarily syphilitic, the ocular signs of pituitary body involvement would not yield, and surgical interference is indicated. If the gland is the seat of syphilis, being gummatous, for instance, a freely employed specific treatment may result in satisfactory and even brilliant results. All patients, therefore, with pituitary body disorder, who also have constitutional syphilis, or from whom the suspicion of such an infection cannot be eliminated, should have the advantage of a full trial of this therapeutic test. In stages of glandular insufficiency the efficacy of organotherapy is probably enhanced by simultaneous administration of mercury (preferably by inunctions) and the gland extracts, even tho the presence of syphilis is not demonstrable by the usual methods. de Schweinitz suggests the probability that a combination of thyroid and pituitary gland extracts is more efficient than either of the extracts alone, and that this combination, associated with mercury, is more effective than is an extract of one gland, even tho given in conjunction with unguentum hydrargyrum.

Physiologic Hyperthyroidism.—Brooks (*Endocrinology*, Mar., 1921) asserts that a condition may exist under which symptoms of thyroid disturbance appear, symptoms mistakenly regarded as indicating serious and permanent disease and that in such cases treatment should not be directed to prevent or circumvent these efforts on

the part of the gland, but to direct or guide nature's efforts. It is unwise to attempt measures, and particularly radical measures, which inflict changes or limitations of a permanent character on the gland. There are many conditions which, particularly in youth, are met only by an active secretion on the part of the thyroid; in fact, very many of the so-called youthful characteristics are really manifestations of thyroid activity. The tachycardia of the pronounced hyperthyroid patient is represented in the physiologic hyperthyroidism stage by palpitation. The physiologic demand for an increased thyroid secretion is often met by an increase in the size as well as in the activity of this gland, and in most instances this is induced by a hypertrophy or hyperplasia, as well as by a mere hypersecretion of the gland. The large and prominent thyroid is typical of the mentality and emotional side of both boy and girl toward the development of sex characters and full maturity. The more charming the young woman, the more virile and attractive the youth, the more constantly will it be found that a large gland is present and the more certainly will it be noted that, under normal conditions, such a person responds to emotional and mental stimuli with a quick, aggressive and appropriate reaction. Still another physiologic evidence of thyroid activity or over-activity in the youth is an increased demand and utilization of food. Again at his time, artistic perceptions are most keen. All these traits are dependent, at least to a considerable extent, on a certain degree of thyroid flexibility and over-activity. Periods of great emotional output are accompanied by enlargements, tho perhaps temporary, of the thyroid. The tremor, characteristic of both the hyperthyroid and the enthusiast, may be present, and even exophthalmus may become evident or accentuated. Surgical or other medical treatment is not indicated. Failure to comprehend and correctly manage these cases leads to exophthalmic goiter, neurasthenia or eventual nervous and physical inadequacy.

Bed sores can be prevented by placing a buffalo robe beneath the under sheet, hair side up.—*Med. Herald.*



General Practice and the Future.

To the Editor,
AMERICAN MEDICINE:

It was claimed for Bismarck that he was rather successful in the game of killing the reformer by absorbing the reform. It might be well for the future interests of the medical profession if they would look alive to see how best they could appropriate such a shrewd bit of business philosophy. Certain it is that they have some problems to face. All the public health, social service, child welfare and other organizations are eager to step in and "help out" in reforms made possible largely by the scientific advances of the conscientious and self-sacrificing efforts of men in our own field. Our medical schools have been remodeled to further certain ideals of equipment, research and experimentation but have left a gap, have failed to quantitatively fill the field with the number of men adequate to appropriate, apply and practice all that has been inspired from the high grade institutions. The devotion to the jacking up of "requirements," to the maintenance of standards has resulted in the blue penciling of many schools where formerly medical practice was taught. This has restricted the number of orthodox schools and limited the supply of "regular" doctors and left a vacuum into which have come both the good and the bad agencies necessary to and elements which menace the welfare of society.

"In the good old days" the doctor was more supreme in the field of public health, the prevention and cure of sickness. He did not have the academic, clinical and hospital attainments and the advantages of the checking up of the laboratory and of intensive and specialized study but he was more apt to see his patient in the home. He had time or he took time to sit down and stop awhile as tho the patient's environment and hospitality were agreeable to him. This attitude begot a state of mutual confidence, and trained as a keen observer, his eye got a picture, or his ear caught something, or he sensed a condition that gave him a valuable cue for directing the right line of treatment. Today the public is demanding more and the general practitioner has drifted much from that former place of prestige in the community. The prominence of the specialist has been diverting, his equipment and devices to many are teasing and attractive. The patient must go to him and be seen under the restrictions of a necessarily more conventional artificial and standardized environment. The office man, the technician, may refine his treatment so that it specifically hits the patient detached

from the home, but without the background of the home what applies to that must be more or less conventional and general.

This is the age of drift to the city, to where we seem to have more life in the apparent comforts, easements for doing things and getting about. The habits and fashions of the age have engulfed the doctor and he has been drawn away from the country, from home practice to specialization, to office, to hospital, to group practice where he can have laboratory, nursing, consultation assistance and proximity and can focalize and center his energies. This is the age of tools, machinery, equipment facility. Even the doctor will say he can do more for the country because he has a better training, equipment, and science has furnished him with definite facts unknown a generation ago and his auto is such a time-saver and ground-coverer. In this habit of haste which machinery, tools and the auto beget, we figure so much and so closely on time-savers, efficiency, specious results that we don't realize our drift to insidious fallacies. We are ready to invest energies in the machine, the organization—but do these beget the touch, the intimate association, the reciprocal or inspiring confidence that made James A. Garfield say of Mark Hopkins, that to sit down on a log and talk with him was a liberal education, or which the old-time physician had in his going into the home and knowing what was the life there, feeling the pulse of the family, seeing the play of the mind and soul in that relaxed environment.

In the drift into intensive education, there has been a receding from the extensive field—the home, the country—natural and nature's environment. Capillary circulation has been affected and there is depletion and neglect in the place where the most wholesome springs of life must be nourished and expand. The nurse, the social service and welfare agencies are trying to bring succor here and the state is compelled to attempt sanitary protection. The place where the physician maintained for generations a prestige and gave the best ministry for health of the time is now gaping, and charlatans are not unmindful of what it offers for their various brands of exploitation. The harvest of opportunity for service in the by-ways, in the rural districts is truly plentiful, but the laborers of a comprehending professional type are few. Rural life needs the resuscitating energies of the doctor. Our scientific advances of 50 years have reduced the number of pounds of cure but we see where to apply an increased number of ounces of prevention, and cannot the public be trained to recompense for the latter more than what was demanded for the former?

The medical profession has never been organized and unified sufficiently to promote and conserve its soundest interests. There are such diametrically opposed viewpoints existing—contrast the psychologist with the surgeon. There is no adequate coordinating head and management and no field agents to relate sectional and individual opinions and interests. Medical societies are but a weak skein of connection. Medical journals, to be sure, do about all that is possible thru print alone. Publishers and instrument makers and dealers are al-

ways biased by and interested in the patronage of their productions. Now there are serious problems—State Medicine, Social and Health Insurance, legislative measures drawn up by agencies, outside the regular medical fraternity—which have very plausible merits, but which in effect are "rinking" with the independence, individuality and efficiency of the medical profession and the time is critical.

In 1890, Medical College attendance in the United States was one student to every 4,300 of the population; in 1900, it had increased so as to average about one to every 3,000 of the population, but from then on to 1920, there is a steady decrease and now we have but one to every 7,500 of the population. These schools are fitting strongly for specialization—about 17 out of the graduating class of 120 at Harvard, we are told, are planning to go into general practice. Dr. J. E. Sampson of Creston, Iowa, who has nursed along for 27 years that interesting institution to serve rural needs there—the "Greater Community Hospital Association"—gave stress to the declining vigor of the doctor in service. The average age there of the practitioner has gone up from 48 years to 57 years within a relatively short period. Dr. Sampson's recent illustrated talks at the A. M. A. session thru use of telling charts and cartoon were most illuminating to those who had not given especial study to these problems. We find in our own state from a recent study, conditions almost as dramatic in the decline of vigor of men, especially in the smaller towns. In Berkshire County there are 15 of the 32 towns without a physician. In Hampshire 9 out of the 23 and in Franklin 11 out the 26. In Franklin County in 15 years there has been an actual decrease of 15% in the number of physicians with an increasing population. Consider also with this the necessary decrease in home medical service visits because, even in this rural district, men are specializing and doing more of the office practice. The ebbing in general practice has been most marked in the country and that there is a serious depletion is shown by the physical defects of the school children and drafted men.

The Red Cross, Public Health Associations and Welfare Agencies are uncovering by surveys these cases of neglect and are launching programs more or less standardized from metropolitan and academic experience and influence. Valuable auxiliary work will be done, but there is a man's job in the country and the old-time doctor understands its points of compass as the newer organizations cannot. We need men with both a medical and a public health training for these fields and it means an increase in the number of medical schools, a better distribution of them geographically thruout the country and such modification of their courses and program as will attract and prepare numbers adequate to fill such fields. The rural field now makes a Macedonian cry for missionary labor. The general practitioner has always maintained a position of peculiar prestige and respect, when he has been responsive to calls for service to the public. We come then to one thing or the other—either the medical profession must get together in such

a way as will result in men from the schools entering these fields where they can turn their own personality and individuality to the best quality of service or else we shall have to face what amounts to a drive in the urgency of welfare organization for accomplishment and there result socialistic measures, state medicine and prussianism.

Dr. Works in the president's address refers to the "medical discoveries and inventions of the last century made by physicians in villages" and questions that regarding great endowments "whether the ends in view would not be better served by application of the great incomes from these endowments to the encouragement of physicians working from below upward for the relief of what is known, rather than in search for what may not exist or possibly will prove of negligible value, if found." Why not make the isolation of the country our future laboratory for medical, scientific advance. Country surgeons feel they have some substantial advantage in the environment of fresh air, natural light, etc. The true sanitarium seeks the country. If rural environment and openness are good for recuperation of cases of tuberculosis, "nerves," surgical convalescence, etc., in short, if it is a good place for the sick to get well in, why should it not be the place for the well to live in and do their best work in? The country needs good health engineering as well as agricultural engineering to make it livable.

Respectfully,

PAUL W. GOLDBURY, M. D.

Deerfield, Mass.

Group Practice.

To the Editor,

AMERICAN MEDICINE:

That Group Diagnosis is Excelsior, and has both place and value, no one should dispute; but their searchings naturally create a conflict of interests.

Their work is pitifully iconoclastic to the reputations of thousands of our lesser local general practitioners; and more or less destructive to all individual reputations that are within their reach; because, when these or those individual M. D.'s send their puzzling puzzles and other unique or interesting cases to this or that extensive and expensive Supreme Court of Group Diagnosticians, each is opinioned and tagged by the members of that lofty group; which combination is supposed to untie or cut all his pathologic Gordian knots.

Unfortunately the majority of all these invalid pilgrims return from these Group Centers, with their former unbounded faith in their former, twenty-seven per cent., local medico, greatly eclipsed or destroyed by the *ipse dixit* of their one hundred per cent.: *Ne Plus Ultra* Diagnostic Group.

Result: Abiding Faith in any below these, is either lost, or vastly diminished; and many worthy ungrouped sons of Esculapius, are dwarfed and dimmed, by the additions and sub-

tractions of these Group Diagnosis compilations, and we all know that a wounded medical reputation is seldom cured.

Test this for yourself with a couple of full-of-faith adherents, who have sub-acute or chronic cases, and if you are made to resemble a close-shorn sheep, don't blame me.

Respectfully,

D. W. CATHELL.

Baltimore, Md.

The Medical Profession and Alcohol Legislation.

To the Editor,

AMERICAN MEDICINE:

Medical, pharmaceutical and chemical organizations as well as individual medical men of prominence in this city are protesting the passage of the bill supplemental to the Volstead Act as destructive to medicine, chemical science and industry in this country.

At the meeting just held in Boston of the American Medical Association, the House of Delegates refused to reaffirm a decision of this body made in 1917. This decision was to the effect that alcohol had neither value as a food nor merit as a remedy in disease. On the other hand, resolutions were introduced at this meeting in the Section on Pharmacology and Therapeutics, where this subject properly belongs, declaring that this act would nullify the right of the physician to prescribe in accordance with his knowledge and his judgment, and would substitute for his qualifications and experience the provisions of a statute laid down by a lay body. While these opinions are being openly proclaimed at this time, one of the most influential and representative medical organizations in the country, the Medical Society of the County of New York, is debarred from discussing this subject. This situation had been brought about by what the *Medical Record* calls a "Curious Error." This error, so called, is founded on the decree of the *Comitia Minora* after consultation with counsel that "The regulations of the Volstead Act deal with the regulation of intoxicants used for beverage purposes and not with alcohol used for therapeutic purposes and therefore does not come within the jurisdiction of the Society." Commenting on this decision the *Medical Record* says: "Of course both the Volstead Act and the proposed amendment do deal specifically with the medicinal use of alcohol and it is incomprehensible that the counsel should have made such a statement or that the members of the *Comitia* should have been willing to accept the responsibility for publishing it." Meanwhile, the Medical Society of the County of New York which is on record as well as the American Medical Association on this subject is prevented from voicing its opinion during this crisis in medical affairs. It may be stated that it was for the purpose of reaffirming the stand previously taken by the Medical Society of the County of New York that this matter was again brought before the Society on April 25th.

Under the recently adopted Constitution of the Society no matter can be debated at the time of its introduction except by consent of the president. All business, however pressing, must await the decision of the *Comitia Minora*. In this instance, this body reported its findings one month after the resolutions in question were presented. The attitude previously taken on national prohibition and the Volstead Act by the Medical Society of the County of New York was to the effect that as far as these measures related to medical practice they were: "irrational, unscientific and against the accepted usage of civilized countries everywhere else throught the world." They were also condemned as "permitting the sale of patent and proprietary alleged medicinal compounds containing alcohol in varying amounts while denying the use of spirituous, vinous and malt beverages of proved therapeutic worth."

At the time of this declaration the president and the secretary of the County Society denied, in a published interview, that the Society was correctly represented in this pronouncement.

For the purpose of determining this issue also, this matter was again brought up on April 25th with the result herein described.

Respectfully,

JOHN P. DAVIN, M. D.



The Management of High Blood Pressure.—

Hypertension patients, says Alsever (reported in *Med. Record*, June 4, 1921), should be repeatedly told how to regulate their lives, for once was not sufficient; the doctor must frequently review in detail the patient's daily routine. When, after thoro treatment it became evident that hypertension was permanent, the therapeutic problem became one of maintaining compensation and avoiding complications. All the treatment suggested for transient hypertension applied with added force, and some additional measures were indicated. Lower caloric values of diet for short periods might be useful, as more frequent and prolonged periods of starvation or the milk diet of Karell, accompanied by rest in bed, and limitation of protein below 1 gram per kilogram of body weight, or even total abstinence from protein, might be tried when there was nitrogen retention. The quantity of salt should never be excessive, perhaps not more than 2 grams per day, but its limitation must depend upon the kidneys' ability to secrete it. A safe, practical rule was to give no more water by mouth than was excreted as urine and fluid stool. If sufficient water were not taken by mouth, rectal injections or Murphy drips of saline, soda, or glucose solution would supply water to the body and also wash the lower bowel. Continued watery catharsis was of doubtful value. Occasional bouts of diuresis

were of value if the kidneys were still competent. The withdrawal by needle of 300 to 500 c. c. of venous blood was usually salutary and harmless. In general, exercise was to be continued in sufficient amount to maintain muscle tone, but should not be carried to the point of exhaustion. Mental overwork was more to be dreaded than physical fatigue. Psychotherapy should not be neglected. Water, air and light baths, and massage treatments were valuable if they soothed the nervous system and favored elimination. Extreme degrees of temperature and prostrating treatment should be avoided. Wool should be worn next the skin when the patient was exposed to the abrupt changes of the temperate zone. Iodide of potassium given because of its supposed ability to aid in the elimination of abnormal substances or to diminish the viscosity of the blood had but slight effect; aconite, usually the tincture, 5 minims or more, every four hours, was the best drug for maintaining blood pressure at a lowered level. However, its use was rarely justified except in emergency. The nitrites caused a temporary lowering of the blood pressure, and served to emphasize the fundamental therapeutic principle that drugs must be repeated before the end of their physiologic action if sustained effect were to be produced. Nerve sedatives should be given steadily. The high frequency or d'Arsonval current would diminish hypertension, and was useful in emergencies, but it should not be used as a substitute for regulation of the patient's life. Radium was also said to lower blood pressure. As yet there was no reason to believe that functional disturbances of the endocrine system depended on causes other than those already suggested as influencing arterial pressure; consequently, one should regulate the underlying causes of disturbed metabolism rather than attempt to dominate the mechanism thru which the cause made itself evident. In the prevention of hypertension, moderation in all things should be the guide.

Bandageless Treatment of Wounds.—Braun (*Deutsche medizinische Wochenschrift*, April 28, 1921) discusses the advantages and the indications for omission of a close dressing. Tight bandages may cause the wound secretion to be held back instead of being absorbed, and exert otherwise an unfavorable effect on the wound area, creating at times just the conditions under which decomposition of the wound secretion and infection with *B. pyocyaneus* take place. Under open treatment the wounds are easier to get at and inspect, and the sticking of the dressings is done away with. The wound needs, however, a loose protective covering, which may be kept from contact with the wound by the use of splints or bent wires or a frame. Material to absorb secretions should be placed where needed. An open-weave covering may be employed if it is best to keep the wound dry, or a close-weave cover may be used and a moist compress laid on or near the wound if a moist chamber is indicated. Braun recommends the bandageless treatment in selected

cases, in aseptic operative wounds closed by suture, fresh injuries without visible signs of infection, dirty or plainly infected wounds, phlegmons, suppurative wounds of non-phlegmonous character, bone fistulas, and in granulating wounds. He gives also a number of contraindications; for example, it would not be wise to confine a patient to the bed or keep him in an uncomfortable position if the ordinary dressings would allow him full freedom of movement; then, too, nervous, restless persons are not good subjects for bandageless treatment of wounds.

Physostigmin in Treatment of Tachycardia.

—Lian and Welti (*Bulletins de la Société Médicale des Hôpitaux*, Paris, April 20, 1921) call attention to this drug as another weapon for combating tachycardia. In the eleven adults described, marked relief was obtained, but it was mainly subjective. The relief from the palpitations was as marked in the cases with exophthalmic goiter as with mere hypersympatheticotonia and in cardiovascular disease without thyroid symptoms. Intense vasomotor disturbances in one case improved, but in another no influence on "hot flashes" was apparent. There were no by-effects except transient malaise in one woman who had taken twice the prescribed dose at one time. They gave one mg. of the eserine sulphate before one, two or three meals during the day, keeping this up for from four to seven days or even for two or three weeks. Hypertonia of the sympathetic nervous system seems to be the indication for it.

Antiseptic Potency of Acriflavine.—Brown and Gulbransen (*British Journal of Experimental Pathology*, April, 1921) state that the sterilizing concentrations of acriflavine (diaminoacridene methochlorid) in heated ox serum (56 C.) for *B. coli* and *staphylococcus pyogenes aureus* are respectively 1:100,000 and 1:200,000, these being the modal values obtained in an extensive series of tests. These figures correspond with the values originally assigned. The sterilizing concentrations in dilute peptone water, with a reaction from pH 7.2 to 7.8 (approximately), are found to be for *B. coli* 1:20,000 and for *staphylococcus pyogenes aureus* 1:200,000 (modal values). These values represent a much higher activity than those originally given. Different commercial specimens of acriflavine could not be distinguished as regards their antiseptic potency, but there was evidence that certain specimens were more irritating to the conjunctiva than others; this property is likely to be important where the substance is employed in treating an infection of a delicate membrane, e. g., that of the urethra. Methods of testing the antiseptic power of acriflavine by repeated inoculation of a mixture of antiseptic and serum, and also by adding the antiseptic after the growth of organisms (*B. coli*) had occurred in the medium, have shown that rapid exhaustion or deterioration of the antiseptic in the medium

does not occur.

Jensen describes his technic as follows: 1. Magnesium carmine (P. Mayer): 1 gm. carmine and 0.1 gm. magnesium oxid are boiled in 50 c. c. distilled water for 5 minutes. Cool and filter. Then 0.5 c. c. liquid phenol is added. 2. Magnesium picrate (P. Mayer): 50 c. c. 0.5 per cent. picric acid solution in distilled water boiled for some minutes with 0.25 gm. magnesium oxid. Cool and filter. 3. One per cent. picric acid in distilled water. Mix 1 and 2. Then add 10 c. c. of 3, shaking constantly. This gives an absolutely clear, deep red staining fluid, which on account of the phenol present remains unaltered for months, perhaps years. The stain applied for from three to five minutes to a celloidin or paraffin section produces a beautifully differentiated effect, and the nucleus, especially, is nicely stained, the best results being obtained after hardening in alcohol or mercuric chlorid.

Bacterial Vaccine Therapy in Children.

—Ombredanne (*Presse médicale*, Mar. 5, 1921) from experience in sixty-six cases, asserts that the results from vaccine treatment in children are somewhat different from those obtained in adults. Local reactions are absent or markedly reduced as compared to adults. One instance of urticaria and five of scarlatinoid rash were, however, observed. The therapeutic effects were found to depend on the nature of the infection. Excellent results were obtained in various pyogenic skin affections such as furuncles and erysipelas, infected wounds, and glandular swellings and abscesses, which the author now finds it unnecessary to incise. An extensive, hard phlegmonous process in the popliteal space, previously incised without result, yielded to vaccine treatment. Impetigo, however, was not benefited. Good results were secured in periostitis of dental origin and in mastitis of the newborn. In one of the latter cases, the abscess, altho ready to open, was absorbed in a few days under the vaccine. In mastoiditis no conclusive results were obtained but postoperative vaccine treatment may act favorably on the later course of the case and should not be neglected. In appendicitis, but little in the way of favorable results was noted. In osteomyelitis, the author's results from vaccine were practically nil, altho other observers have reported distinct benefit in this condition.

Pruritus Ani and Its Treatment.—Pruritus ani is an exceedingly troublesome affection, the cause of which is not definitely known, says an editorial writer in the *Medical Record* (June 4, 1921) and its treatment is not only not curative in the majority of cases but in many instances scarcely alleviative. Its distinctive feature is itching frequently of a most intense character. It is a complaint which seems to be on the increase and is of so great importance that a meeting of the subsection of Proctology of the Section of Surgery of the Royal Society of Medicine in London on April 13 was devoted to a discussion of the subject.

Mr. J. P. Lockhart-Mummery, who opened the discussion, said it was by no means the trivial complaint that its name would imply. The thickening of the skin, the rugæ and eczema, fissures, and other abnormal conditions of the skin around the anal orifice frequently associated with pruritus ani were secondary results of scratching, and beyond the fact that they tended to accentuate the itching and interfere with treatment had no causal relationship to it. He pointed out that certain definite types of pruritus ani were to be distinguished: (1) Those due to some general condition such as glycosuria, etc.; (2) those due to some parasite such as worms, pediculi, etc.; (3) pruritus obviously secondary to some lesion of the anal region, such as fissure, prolapsed pile, etc.; (4) pruritus of old standing where no local lesion can be discovered; (5) paroxysmal pruritus. A local cause for the itching was present in a great majority of cases, and the first essential was to make a thoro search for this cause. Where a definite cause for the pruritus was discovered it was generally one which produced moisture of the parts, more particularly of a septic character, such as fissure or fistula, a polypus of the rectum, or a prolapsed pile. In the case of itching of recent origin removal of the cause was followed by prompt and permanent relief. The difficult cases were those in which no local cause could be discovered, and more particularly the paroxysmal cases, in which it was unusual to find any local lesion. The speaker confessed himself an adherent of the theory advanced in 1912 by Dr. Dwight Murray that severe pruritus ani of old standing was due to a chronic streptococcal infection of the skin of the anal region, and pointed out that careful investigation by bacteriologic methods had proved the presence of *Str. fecalis* infection in the vast majority of cases.

He did not place much reliance on general treatment, but thought local cleanliness and dryness were very important. Lotions and powders were better than ointments. Any local cause, such as fissure, ulcer, piles, hypertrophied papillæ, etc., should be removed, and it was often advisable to investigate the anal region under an anesthetic. Dr. Dwight Murray had suggested the use of a vaccine, but it did not seem reasonable to him to treat a septic infection of the skin by vaccine. X-rays applied to the skin thru suitable screens had cured about 20 per cent. of his bad cases. Operative treatment remained for the cases in which other measures had failed. The diseased nerve end-plates must be destroyed in order to effect a cure in old-standing cases. In 1905 Sir Charles Ball of Dublin described an operation of division of cutaneous nerves passing to the skin of the anal region and this had proved most satisfactory. During a period of fifteen years he had performed this operation a number of times with excellent results. The patient experienced a return to normal sensation within a month to six weeks, and the relief of the itching was permanent.

In the discussion following the reading of this paper, all were agreed on the absolute necessity of keeping the parts scrupulously clean and dry and not using ointment. It seems

that constipation must play a prominent rôle in the production of pruritus ani because it encourages streptococcal infection. However, it appears more than likely that, generally speaking, the affection is only a symptom brought about or aggravated by unsuitable food, and abstention from such food will alleviate the condition. Still there is yet much to learn concerning pruritus ani.

The Treatment of Diffuse Suppurative Peritonitis.—McEachern (*Canadian Medical Association Journal*, Feb., 1921) recommends following treatment: 1. Early removal of the cause by operation. 2. Provision for the escape of pus by suitably placed drainage tubes. 3. Posture to favor the gravitation of pus into the pelvis, keeping the intestines at rest as far as can possibly be done by means of interdicting all food and water by mouth, and the free use of morphine to lessen peristalsis and control pain. 4. Lessening of shock by cutting off painful stimuli by means of morphine. 5. Introduction of water into the system by rectum to flush kidneys and carry away toxins. 6. Avoidance of purgation at every stage of the disease. While it is essential to prevent even water reaching the stomach, it is permissible and desirable that the patient should be at liberty to rinse the mouth as frequently as desired. For this purpose water, either plain or flavored with fruit juices, can be used. Permitting the patient to chew gum helps to keep the saliva flowing and renders him more comfortable.

Operative Treatment of Infantile Paralysis.—Lovett (*Surgery, Gynecology and Obstetrics*, Jan., 1921) states that the greatest defect is in not realizing that operation must always be directed to securing better function, and that function can only be studied by taking the case as a whole and analyzing it to see where function is defective and how it can be improved. It may be that mechanical treatment will offer the best hope in the individual case; if so, it should be used. If operation can effect improvement, it should be done; often both operative and mechanical treatment will be desirable. The function of the lower extremity is walking, and improvement in walking cannot be brought about by operative measures which do not attack the chief factor of the lameness. In the upper extremity the hand must be able to grasp and the shoulder to be moved on the body to justify operation. In the absence of either one of these no good function will result from operation.

Having made the analysis of function, the salient features of the case should be picked out, and if there is a reasonable prospect of relief by operation, then the operation should be performed promptly, and the two-year period of waiting is not necessary in all cases. I should deprecate especially the performance of serious structural operations upon the foot when the chief cause of the limp lies in the muscles of the hip and abdomen. These opera-

tions may well be necessary, and if so, should be performed, but not with the expectation of remedying a limp of which they are not the cause.

If the operative aspect of infantile paralysis is approached from this functional point of view, we will operate more intelligently, more radically, and more fearlessly, but will leave undone a good many operations which at present are done without a sufficiently detailed study of the case, or a sufficient reflection on how much improvement in function is really going to be effected by the proposed operation.

Treatment of Whooping Cough.—With the more extensive use of pertussis vaccine in the prophylaxis and treatment of whooping cough, one often hears of isolated cases which respond little or not at all to vaccine treatment. Luttinger, in the *New York Medical Journal*, April, 1921, says that such failures are usually due either to the vaccine itself, the inexperience of the physician as to the proper dose and administration, or to constitutional inability of some patients to respond to vaccine stimulation.

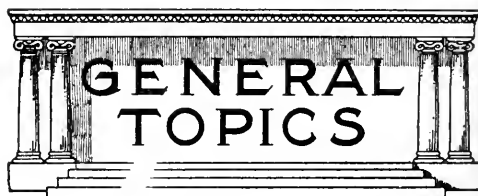
In order to obtain successful results in the treatment of whooping cough with vaccines, one must secure the following:

1. A fresh Bordet-Gengou bacillus vaccine, from a reliable laboratory.
2. Relatively high doses should be administered, subcutaneously, at regular intervals and as long as the whoop persists.
3. Strict attention to hygiene and feeding so as to insure a maximum of response to vaccine stimulation.
4. The establishment of special whooping cough clinics by the Department of Health, where the vaccine treatment would be accessible to all.

Seminal Vesiculitis.—The frequency with which infection of the seminal vesicles occurs is pointed out by Cunningham (*Boston Med. and Surg. Jour.*, Feb. 24, 1921). As a result of his experience, the author concludes as follows:

1. Patients with a persistent urethral discharge should be examined to determine the condition of the prostate and seminal vesicles as well as the condition of the anterior urethra.
2. That there is a group of patients with infection in the seminal vesicles and prostate which cannot be cured of a urethral discharge except by destroying such lesions by surgical measures.
3. That the possibility of foci of infection in the seminal vesicles and prostate should be included in the differential diagnosis of infectious arthritis.
4. That patients with such foci of infection and metastatic disturbances should be subjected to surgical drainage of such foci of infection if improvement is not satisfactory by non-operative treatment.

The Dietetic Treatment of Gastric Ulcer.—Rehfuß, at the Association of American Physicians, May 4 and 5, 1920 (*New York Med. Jour.*, Apr. 6, 1921), reported the work on the gastric digestion done at the Jefferson Medical College. He could not say what was the etiology of the ulcer, but acidity of the gastric contents had something to do with the chronicity of the ulcer. It might not cause it, but it would prolong it. These studies were undertaken over a long period of time and with different foodstuffs. The results seriously undermined the modern conception of the treatment of ulcer. Three types of normal stomach were observed in the hundred students examined: 1, hypersecretive, high acid, one hundred per cent. or over; 2, esosecretive type; 3, a slow secretive type. Chemical secretion was found to continue all the time, and psychic secretion at varying times. There was an interdigestive phase in the fasting stomach with an average total acid of thirty and free acid of eighteen to twenty. This was between digestive phases and showed increase of trypsin. His studies had led Rehfuß to incline to the bacterial causation of gastric ulcer. He found very little difference between the unobstructed stomach and the normal stomach. Some cases showed reduction in acid. In ulcer cases there was disturbance of the interdigestive phase.



The Nutritive Value of Vegetables.—Physiologists are agreed, says Butler (*Amer. Jour. of Clinical Med.*, June, 1921), that a vegetable diet is sufficient for the needs of the organism, even of carnivorous animals. The Hindu, whose principal means of sustenance is rice; the nomadic Arab or the porter of Smyrna, who lives on dates; the Italian laborer, whose daily rations consist of "polenta" and macaroni, furnish ample proofs of this view. The animal nearest to man, the ape, is frugivorous. An important objection, however, to a strictly vegetarian diet is the excessive amount of carbon ingested daily and the disturbance of nutrition that is likely to follow. As a result of his studies on the nutritive value of vegetables from a hygienic point of view, Dr. Hildebrandt comes to the following conclusions:

1. A vegetable diet supplies the organism with all the food necessary for the growth of the body and the normal working of its organs.
2. A prolonged vegetable régime may give rise to gastrointestinal and general disorders.
3. From an economic point of view, a mixed diet is to be preferred to an exclusively vegetable diet, for the reason that, while at the same cost vegetables generally contain a greater number of substances, the quantity of sub-

stances that can be utilized is smaller.

4. It is not yet absolutely proven that vegetable albumen has the same value as animal albumen.

5. It is a matter of practical knowledge that two-thirds of the albumen can be supplied by vegetables.

6. The carbohydrates are almost entirely furnished by vegetables.

7. Only one-half of the fat necessary for nutrition is supplied by vegetables.

8. An obstacle to the unlimited use of vegetables is the high price of those that are regarded as luxuries.

Man Made Diseases.—Many of the diseases that afflict man may almost be said to be made by him, says the United States Public Health Service, for they are spread almost altogether by his disregard of the simplest rules of sanitary living (*N. Y. Med. Jour.*, May 4, 1921). Typhoid fever, for instance, is spread by the contamination of water, milk and food by human filth which has been run into rivers or wells or left exposed for flies to carry to the kitchen or dining room, or which even more disgustingly is carried to food directly from soiled hands. Hookworm disease and other intestinal diseases are spread, to some extent at least, by the states which allow road building gangs to work under conditions which too often compel them to scatter pollution to be carried by flies to their own kitchens, or to be ground into the soil to be picked up by the bare feet of children. Practically all hookworm disease is due to soil pollution. Malaria, too, is often spread by the ignorance and carelessness with which mosquito breeding places are created or disregarded. Borrow pits, dug to obtain stone for road work and other needs and left to fill with water, furnish homes for thousands of wigglers; culverts improperly placed produce pools that are equally prolific; ditches that are clogged and never cleared out are popular—and populous; railroad and other embankments that stop or check the flow of water create conditions that are ideal—from the mosquito point of view.

Dr. T. F. Abercrombie, health officer of Georgia, has suggested that the convict and other gangs who work along the roads be required to fill up borrow pits, place culverts properly, clean ditches, and attend to other small but important details that any man can do and that will deprive the mosquito of many of her breeding places. To accomplish this along the roads is more important than it may seem, for a mosquito hatched at the roadside does not have to wander in search of food; all she has to do is to wait for food to come to her. Moreover, if she is of the anopheline species, which spreads malaria, she has excellent chances both to acquire the malaria germs and to pass them along. Until she bites someone who has the disease, her bite, tho no more pleasant than that of any other mosquito, is not any more dangerous. But a single malaria patient, driving along a ditch-bordered, mos-

quito-infested road, may provide hundreds of the insects with germs, which they may pass on to every traveler along that road. Dr. Abercrombie, by making the roads of Georgia safe for man, may materially reduce the malaria hazard of the state and according to the Public Health Service, his example deserves to be followed.

True Intestinal Pain.—Foreman (*Western Medical Times*, April, 1921) brings the discussion of this subject to a close by the following: (1) Functional digestive disturbances rarely occur in the stomach and small bowel adequate for a distress or pain. (2) Nature limits and controls bacterial fermentation in the colon: (a) By relative complete digestion and absorption in the small bowel. (b) By continued digestion and absorption of liquid food residue in the proximal colon. (c) By solid food residue in the remainder of the colon. (3) Cathartics, enemas, rough foods, heavy oils, carbonated drinks, roughage, not only are mechanical and chemical irritants, but they produce changes within the colon which result in bowel overtone or spasm adequate for distress or pain, and establish an intestinal toxemia by softening or liquefying the colon contents, and interfere with proper elimination. (4) The equilibrium of the viscera is maintained by the two systems of vegetable nerves, the one activating and the other inhibiting action. Symptoms appear when this equilibrium is disturbed. (5) The great mass of visceral stimuli are never adequate to reach consciousness, but are only concerned in unconscious physiologic function. (6) In visceral disease the cerebrospinal nerve centers become hyperirritable from constant amplified stimuli, so that their threshold of response is lowered, and impulses which are normally unnoticed may penetrate the nerve synapses and reach consciousness, likewise exaggerated reflexes may induce bowel tone or spasm adequate for distress or pain. (7) Psychoses and neuroses or organic disease of the nerve centers may result in altered nerve response adequate for pain. (8) The endocrine system is a very important factor in bowel tonus and true intestinal pain. (9) Bowel tone and true intestinal distress or pain are influenced by: (a) Conditions in the bowel itself or in its walls. (b) Reflexes from other structures thru the vegetative nerves. (c) Hyperirritability of the cerebrospinal nerve centers due to visceral disease. (d) Psychoses and neuroses or organic disease of the nerve centers. (e) Endocrine secretions.

The Aspirin Habit.—A correspondent in the *Medical Press* (June 1, 1921) has drawn attention to the extraordinary demand among women in the town for aspirin. The habit originally developed in the course of the war, when headaches and anxiety prompted the resort to some means for gaining relief from the misery which was caused. It was found that aspirin acted beneficially for the purpose, and from that time the habit was acquired of tak-

ing the drug, a habit which has since assumed such unrestrained proportions. In some cases women, we are told, are taking as much as 120 grains daily, in 20-grain doses; and, it is stated that even this amount has been exceeded in particular instances. In a large drug store in the town 50 per cent. of the women making purchases consist of those who ask for aspirin. The toxic effects of acetyl-salicylic acid, so far as it is known, have only occurred in cases where idiosyncrasy has militated against its administration, and a small dose of ten grains has thus, in several recorded instances, been followed by toxic symptoms. The limit of its toleration, on the other hand, exhibited by women who can take 120 grains daily, is apparently still unreachd. As a general analgesic aspirin has come into popular use, and now that the public resort to it for self-medication, and have acquired a drug-habit in consequence, some necessary restrictions should be imposed upon its sale. Inquiry into its physiologic action has shown that it acts as a depressant upon the thermogenic center in the corpus striatum, and in view of the fact that the professional dose seldom exceeds 30 grains daily, the excessive dosage resorted to under the development of a habit must lead to moral no less than to physical harm.

Surgical Operations on Aged Subjects.—The average age of the patients operated on by Culler and reported in the *Journal A. M. A.* (April 2, 1921) seems to indicate that senility may not be a bar to surgical procedure as often as is commonly supposed, and that certain physical defects in old age are remedial without the high mortality rate anticipated by many. His experience with these old men inclines him to the belief that aged people are often passed by who may be salvaged without more than ordinary surgical risk, and that disaster in such cases is often borne out of delay and compromise. Careful preoperative scrutiny, speed in the operating room, and painstaking after-treatment will reduce risks which are derived from cardiorenal defects and other concomitants of age. The ages of these patients varied from forty-seven to eighty-one; the average was sixty-seven and six-tenths years.

Compulsory State Health Insurance.—The misfortune of sickness is often a calamity, says an editorial writer in *Minnesota Medicine* not only because of the physical suffering entailed, but because of the enormous expense incurred in our present-day complex mode of living. The average American experiences from sickness a serious financial set-back from loss of wages, hospital charges, physicians' and nurses' fees, and cost of medicine. Why not let the state assume this already present risk, either in whole or in part?

At first thought the first impression produced is most favorable, as is often the case regarding socialism. Why not extend the system and let the state insure against other equally as seri-

ous hazards such as accidents, old age, unemployment, and even death?

The question of health insurance so-called, for it is a matter of fact a sickness insurance, is fundamentally a governmental question. It is a question that involves the foundation of our present social and political fabric and should be settled by our ablest statesmen. It is not a question for physicians to decide and it should not be decided by the unthinking public nor by mere politicians. In our representative form of government the question will actually be decided by our elected representatives and the will of the majority of the people will be exerted thru the ballot box. In this question the medical profession is interested, and some admirable views on this subject have been expressed locally by members of the profession.

The question is, whether we want to change the whole fabric of our American form of government from the individualistic to the paternalistic. The paternalistic form of government may exist in either a monarchy or a democracy. As an example of the former we have had Germany; of the latter Great Britain has shown decided tendencies, particularly in the caring for the health of her citizens. The ancient empire of Rome is pointed out as a warning.

Each year various health bills are introduced in the state legislatures. The most notable one was the Health Centers Bill introduced by radical labor elements in New York State last year and defeated. The Illinois legislature is to consider a similar bill this year. If such bills were passed in each state it is estimated that a sum of money amounting to from one-half to one million dollars would be thrown into the hands of the government for yearly disposition.

Such a change would affect the public very markedly. The recklessness of youth would be encouraged as the value of health would be lowered. Malingering would be encouraged and if benefits were not to be paid under seven days of sickness, many minor illnesses would show crises on the seventh day. The public would receive poorer medical treatment on the whole.

A large percentage of the medical profession would be placed in the employ of the government. While the average physician would have fewer bad debts, his income would be smaller. The undeniable stimulus exerted by the hope of a larger income would be almost nil. Young men of less ability would be attracted to the profession. Useless examinations would be multiplied. With the increase in number of examinations less careful and thoro work would be done.

The whole scheme of state insurance is un-American. The typical American much prefers the personal element more truly present between private physician and patient, and which gives much of the charm to the practice of the greatest profession in the world.

We are heartily in favor of insurance against sickness. Many of the larger business houses, guilds and professions are carrying on this form of insurance very satisfactorily. The individuals directly benefited pay the premiums. But for the sake of all concerned let us not have Compulsory State Health Insurance.



NEWS NOTES AND ANNOUNCEMENTS

The Oldest Medical Paper in the World.—The *Lancet*, founded in 1823, will hereafter be published by the Oxford University Press. Subscriptions to be mailed to American addresses should be sent to the Oxford University Press, 35 West 32nd St., New York. Editorial communications should be sent to Oxford University Press, Amen Corner, London, E. C., England. The *Lancet* is issued weekly. Annual subscription, \$12.00.

Oldest Physician in Missouri.—Dr. Joseph Singer Hallstead of Breckenridge, Mo., celebrated his 103rd anniversary on inaugural day, March 4. As an evidence of the esteem in which the doctor is held by his fellow townsmen, the merchants of Breckenridge closed their stores and business generally was suspended to take part in the celebration of the aged physician's birthday anniversary. The doctor and his wife, who is 94 years old, are in good health and apparently enjoyed the affair without showing signs of fatigue. Dr. Hallstead was graduated from the Kentucky School of Medicine, Louisville, in 1840, and was married in 1852.

The Death of Dr. Simon Baruch.—One of the best known authorities on hydrotherapy in this country, died at his home in New York City, June 3, after a long illness. He was born in Germany 81 years ago and, after completing his academic education at the Royal Gymnasium of Posen, came to America. Here he studied medicine at the Medical College of Virginia, Richmond, from which he graduated in 1862. After this he joined the Confederate Army and served as a surgeon in the field, where he had many and varied experiences. At the close of the war, he located in Camden, S. C., where he remained until 1881 when he moved to New York. He was an ex-president of the S. C. State Medical Association and was also at one time connected with the State Board of Health of that State. Later he was professor of hydrotherapy at the College of Physicians and Surgeons, New York. Many of his writings on this

subject have been translated into French and German.

Mme. Curie's First American Contribution.—The July issue of the *Medical Review of Reviews* will contain a lengthy original contribution by Mme. Curie entitled "The Radio Elements and their Applications." A copy of the July issue containing it will be sent gratis to any physician making the request.

Address the *Medical Review of Reviews*, 51 East 59th Street, New York City.

High Maternal and Infant Mortality.—In the United States in 1919, one mother died for every 135 babies born, and every eleventh baby died before it was a year old. These rates are excessive as compared with those of other countries. Six countries are shown to have a lower infant mortality and 16, in a group of 17, a lower maternal mortality than the United States. Not only is our maternal mortality rate higher than that of most representative countries but it seems to be increasing.

Measures which have proved successful in preventing this waste of life among mothers and babies include: Prompt and accurate birth registration, health centers, public health nurses, special clinics, trained attendants at childbirth, adequate hospital service, education of the mother in maternity and child hygiene, and education of the general public in the significance of a necessity for maternal and infant health.

Röntgenologists Wanted.—The United States Civil Service Commission announces open competitive examinations for the positions listed. Vacancies in the Public Health Service throughout the United States in the position of roentgenologist at \$200 to \$250 a month, associate roentgenologist at \$130 to \$180 a month, assistant roentgenologist at \$90 to \$130 a month, junior roentgenologist at \$70 to \$90 a month (with bonus added), and vacancies in positions requiring similar qualifications, at these or higher

or lower salaries, will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, promotion. Address, Civil Service Commission, Washington, D. C., prior to August 1.

The Nation's Health.—With the May issue the name of this magazine was changed from *Modern Medicine* to the *Nation's Health*. This was done to make the title more clearly descriptive of the present scope and the new and greatly enlarged service of the magazine in health promotion and conservation.

The change is one which has been under consideration for some time. It is the final step in the development of a magazine which we confidently expect will be of distinctive service to those who are in positions of responsibility for the nation's greatest asset, the health of its citizens.

The change of name and the broadening of its field of endeavor complete the transformation of the *Interstate Medical Journal*, the predecessor of *Modern Medicine*, from a publication devoted to clinical medicine to a health magazine of broad national service—a magazine devoted to community, industrial, and institutional health problems.

The *Nation's Health* will continue those features which have proved most interesting and serviceable to the readers of *Modern Medicine*, but will cover the subjects treated more completely, and in addition inaugurate other features which are important in the new and wider field.

China Will Adopt U. S. Pharmacopeia.—The United States Pharmacopeia is being translated into the Chinese language under the auspices of the Philadelphia College of Pharmacy and Science. Germany before the war is said to have tried every means to have the German Pharmacopeia translated into Chinese in order that German manufacturers might export to China drugs of German standards, and it is understood that Great Britain has made a similar effort since the war. Thru the adoption of American standard formulas for drugs and medicines, it is expected that American drug manufacturers will be greatly benefited.

The American Public Health Association, on May 1, 1921, removed its offices from Boston to New York, in order to promote closer cooperation with other national health agencies. It is to be one of the agencies composing the National Health Council. A national headquarters office of the Council has been established at 411 Eighteenth Street, Northwest, Washington, D. C., in addition to its cooperative office in New York City. Dr. Livingston Farrand is chairman of the Council, and Dr. C. St. Clair Drake, secretary.

Federal Aid to States in Venereal Disease Work.—Since the signing of the armistice, State Boards of Health, assisted by the U. S. Public Health Service, have established in dispensaries and hospitals more than 400 clinics for the free treatment of persons afflicted with venereal diseases (gonorrhea and syphilis).

These clinics were established in pursuance of the national educational and medical program for controlling these diseases, which had become a very serious menace to the health of the nation. To aid in the work the Federal Government appropriated more than two and a half million dollars to be allotted to the states on a fifty-fifty basis; and now every state in the Union has accepted the offer.

At the clinics, diseased persons receive, free of charge or at small expense, the best modern treatment that money and science can provide. Arsphenamine (606) and other expensive drugs are provided for patients who are unable to pay for them. Without this help many infected persons would never be treated; with it thousands have been cured and many thousands of walking sources of infection have been removed. In the last two years more than 200,000 persons were treated in these clinics; and in 1920 alone a million and a half treatments were given.

The last Congress, however, failed to continue the cooperative appropriation; and, unless the present Congress comes speedily to the rescue, Federal aid to the states must cease soon after June 30. One result of this cessation is brought out in a statement made by H. T. Davison, Secretary of the International Association of Machinists, in a talk to the conference recently held in New York under the auspices of the U. S. Public Health Service and the American Social Hygiene Association.

"A venereal disease is nothing short of a calamity to a worker," said Mr. Davison, "because it affects the creative impulse which is the laborer's greatest asset. And after all, the worker pays the price in money and in health. The industry may provide the necessary medical treatment and give information about the diseases to its employees, but the industry can pass on the cost of these measures to the consumer of its products. Because the laborer must pay the price, he wants to know the facts, and for this reason the International Association of Machinists and other labor organizations are gladly cooperating with the Government."

Toy Balloons Cause Skin Eruption.—According to reports received by the State Health Department, some of the dyes used in coloring toy balloons are capable of causing a severe inflammation when brought in contact with the skin while in a moist condition. Children should be warned against the pastime of making miniature balloons from the ruptured rubber by sucking or blowing against small pieces of the balloons held tightly against the lips.

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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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"State Medicine."—The term "State Medicine" often has the effect of a red flag upon conservatives or bulls. At the last meeting of the American Medical Association there were various resolutions introduced emphatically opposing state medicine, and any scheme for health centers, group medicine, and against diagnostic clinics either wholly or partly controlled, operated, or subsidized by the state or national government. Dr. E. V. Delphey offered the following resolution: "That the term 'State Medicine' be defined by this Association as the practice of medicine by the state by physicians on a salary to the exclusion of all other and individual practice of medicine." This resolution scarcely stands analytic scrutiny. Thus far, there has been very little social medicine that could be included within this definition.

By way of comparison there was offered by Dr. W. S. Rankin, of North Carolina, the following:

"Whereas, The term 'State Medicine' has a liberal meaning so general as to include public practice and policies, some of which are desirable and some of which are objectionable; and

"Whereas, The term 'State Medicine' has been and is being used frequently and extensively, with confused and without established meaning; and

"Whereas, Such use of the term has resulted in and continues to produce much misunderstandings, controversy and antagonism both within the profession and between the profession and the public, now,

therefore, be it

"Resolved, By the House of Delegates of the Medical Association that to prevent further use of the term with resulting misunderstandings and controversy and to facilitate intelligent discussion and action, 'State Medicine' be and is hereby defined as follows:

"State Medicine" is any practice or policy provided for in the legislative acts of a state which has to do with the prevention of treatment of disease, and among other requirements and provisions includes:

"1. Legislation that determines who shall be permitted and who shall not be permitted to treat disease and prescribe the conditions under which a person may practice medicine;

"2. Legislation which provides institutional treatment and care for the delinquent, the defective and the diseased, including institutions for the feeble-minded, the deaf and blind, the psychopathic and insane, and the tuberculous;

"3. Legislation which provides for the education of the general public in matters of personal and public hygiene, giving them a higher appreciation of the value and use of medical science thru printed matter, addresses, moving pictures, visiting nurses and other means of proved educational value;

"4. Legislation which provides public laboratories for assisting the profession in the diagnosis of specimens, of pathologic material, and further assist the profession by providing and furnishing various biologic products of preventive and curative value;

"5. Legislation which provides for sickness insurance, especially as practiced in England, and which provides for panels of

physicians who are paid out of public funds, and at rates fixed by the state;

"6. Legislation which provides for the reporting by physicians of births, deaths and communicable diseases, and prescribes measures for their control;

"7. Legislation which provides for the physical examination of school children, for the purpose of finding those who suffer from common defect with the view of securing treatment of such defect, both in the interest of the individual child and the interest of the classes in which he recites or retards;

"8. Legislation which provides dispensaries for the examination and treatment of diseases of such prevalent and far-reaching effect on the public health as to constitute large and unnecessary handicaps to social progress as, for example, dispensaries for venereal diseases, and trachoma and hookworm diseases in certain sections of the country."

This latter resolution indicates clearly the scope of "State Medicine" and demonstrates the weakness and futility of irritation at the term itself. It is manifest that there is much legislation that has been enacted which is to be regarded as "State Medicine," and furthermore that this very legislation is of the type that the community by no means would cast out, because of its demonstrated benefits and advantages.

Terminology and nomenclature are important, and exactness in expressing concepts is fundamental for rational thinking. "State Medicine" is not to be opposed as a monstrous imagined creature with an uncontrollable appetite for devouring the medical profession. It must be recognized as a generic term that embraces a multitude of functions, most of which are demanded by the complexities of modern living as a result of the scientific criteria of effective service that the medical profession has established. There may be some phases of its development against which there may be

abundant reasons for opposition, but this is no reason for rejecting its basic substantiality. "State Medicine" exists. Its future, only time, civilization, and medical and public ideals can determine.

Health Appropriations.—Public health is to be secured thru capable administration, adequately financed. The degree of accomplishment of health administration is not to be determined by the single factor of expenditure. This fact becomes patent upon a careful study of state appropriations for health. Two communities of equal population, but with wide variations in territorial expanse, cannot accomplish identical results with identical appropriations, owing to the handicap of time lost in covering territory. It is evident, therefore, that moderate-sized states with large urban populations can accomplish more per thousand dollars appropriated than is possible in states where the bulk of the population resides in rural areas. Thus it appears proper in considering state appropriations to give attention to the expenditure per square mile as well as the outlay per capita.

A study of the Financial Statistics of State Departments of Health (*Public Health Reports*, May 20, 1921) compiled under the direction of Dr. C. St. Claire Drake, reveals the importance of this distinction. Arizona, for example, ranks fortieth in total appropriation with a per capita amount of 6.5 cents, making it twenty-first in rank for per capita appropriation, but it is forty-third in rank with its appropriation of only 19 cents per square mile. California is seventh in rank of total appropriation, has a per capita of 8.9 cents, giving it fourteenth place, but its appropriation amounts to \$1.97 per square mile, giv-

ing it twenty-fourth position. Pennsylvania is first in its total appropriation, is second in its per capita appropriation of 30.8 cents, tho it is only eleventh with its per square mile appropriation of \$5.98. Rhode Island, on the other hand, is thirty-fourth in its total appropriation, seventeenth in its per capita appropriation of 7.9 cents, but is second with its square mile appropriation of \$45.

The reason that Massachusetts is so effective in its health work is manifest in its second position for total appropriation, its first rank with a per capita appropriation of 39.2 cents, and its first rank with its per square mile appropriation of \$188. The accomplishments of New York State must be weighed in the light of its third rank for total appropriation, its thirteenth rank with a per capita appropriation of 9.2 cents, and its twenty-third rank with a square mile appropriation of \$2.01.

Even figures of this kind, however, fail to indicate the relative achievements of different states without a consideration of the segregation of items of appropriation for such types of health work as are covered by the terms, child hygiene, laboratory work, the division of communicable diseases, vital statistics, sanitary engineering, etc. It would be interesting to survey more completely the methods of spending appropriations with a view to determining how state mortality rates are affected by the different points of emphasis manifested in state appropriations, and in how far an index of accomplishment may be secured on the basis of a ratio of specific expenditures to either the per capita appropriation or the per square mile appropriation.

It is certain that in order to secure adequate sums of money for effective health administration, administrations must be

able to demonstrate to the taxpayers in some tangible manner the benefits that result from certain groups of expenditures. By careful checking of the nature of the appropriations and the results aimed at in rural and urban communities, it should be possible to devise some unit of cost for different kinds of health work in terms of population and area. Such figures, of course, for a state, would have to take into consideration specific appropriations made by counties, townships or cities that supplement the state health appropriation. In other words, the health gains of a single state now cannot be interpreted directly as the result of state appropriations or state interest. For exact theorizing the cost of health work in states must be interpreted in terms of the total money expended by private, semi-public and public agencies whether the funds are raised by donation or official appropriations.

What is a Fight Worth?—The big fight is over. The Fourth of July has passed. The vacationists are seeking relaxation, following the dictates of their desires, as limited by the domination of their pocket-books. The old world moves on somberly with limping pace, wondering what the future portends.

Despite the cry of hard times, the evidence of unusual unemployment, several millions of dollars were involved as part of the costs of a championship fight between a riveter and a soldier. Fully thirty-five million dollars worth of newspaper space was devoted to discussion of its various phases before and after July 2. International news was relegated to secondary space. The problems of peace with

Germany, the reduction of armament, the new tariff, all became of trifling importance in the light of the fistic glamor in Jersey City. No presidential campaign ever received a nobler tribute of importance than was manifest thru the numerous special writers designated to cover this one prize fight. More than 850 scribes were at the ringside to dwell upon every angle of the event from the costumes of the women to the consideration of the moral aspects of spending the last five dollars upon the event.

What did it all mean? Was it an evidence of decadence? The worship of Mars? The appeal of a struggle for large stakes? An hysterical outbreak? Or a desire for the vicarious satisfaction of primitive pugnacity? The answer is difficult. One is tempted to question the high-sounding statements of America's obligations, and to have greater understanding of the mental level of our population, as evidenced in the examination of soldiers.

With nations struggling to avoid bankruptcy, with grim disease wielding its scythe freely thruout the world, with standards of living threatened, with unemployment rampant, millions of dollars are available for an event requiring a final fifteen minutes of time.

It was a good fight, a fair fight. The contestants were honest, capable and able to sustain themselves in a commendable fashion. According to the dopesters, the right man won regardless of a surprisingly swift undercurrent of feeling in favor of the defeated man. The promoter reaped a rich reward for a stupendous task of organization well perfected and adequately executed. The national government will receive approximately a million dollars in taxes of all kinds, representing about ten

cents per capita for every man, woman and child in the nation. The fighters were satisfied—the public was pleased—the Treasury was enriched. An international event was successfully achieved, but otherwise the world remains as before.

The great fight for existence continues and human beings, everywhere, are pitted against circumstances and events which test their mettle, their courage, and their strength without the promise of great rewards. From the medical standpoint, there is greater hope in the courage of humanity in its commonplace activities, in its determination, struggles, and moral resolves, than is to be derived from the personal combat of the challenger and the challenged in a prize fight.

There is no great lesson to be derived from the event, but there is much reason for serious thought. To knock out a man has been esteemed as worth three hundred thousand dollars. What is it worth to save a million men, women and children from being permanently knocked out by accident or disease? Who are the fighters that deserve the richest rewards? Apparently, above all, men attach more value to a champion slugger than to a leader in art, literature, medicine, politics or statesmanship.

Industrial Dermatitis.—Constant investigation into industrial diseases leads to their practical prevention. As an example of the type of study that brings the desired results, attention may be called to the report upon "Industrial Dermatitis Among Printers," by William J. McConnell, Passed Assistant Surgeon (Reserve) United States Public Health Service (*Public Health Reports*, May 6, 1921).

The condition studied has been called "ink poisoning" because of its presence upon the arms and hands of printers who are subject to more or less constant contact with various colored inks. In the past, the blame for the dermatosis has been attributed to the use of substitutes for oil of turpentine, particularly heavy benzine. The skin lesions, "varying from slight erythema to ulcerations, are located on all regions of the forearms and hands, occasionally extending above the elbow. Some of the lesions present a dry and scaly appearance, while others are moist and vesicular. Some have a tendency to coalesce and spread, others are discrete."

The scope of the investigation covered the methods of printing and the particular processes in which the operatives were most prone to be affected, the materials used in the processes, the methods employed in removing the inks, and an analysis of the inks, oils and soaps utilized by employees. To these were added physical examinations of the workers afflicted, and some experimental work on volunteers. The thoroughness of the work was commendable and gave rise to the conclusions that while inks may delay healing, they fail to irritate unbroken skin. All inks, irrespective of color, when removed by the methods in vogue, caused an irritation, particularly among those with dry skins. The degree of dermatosis is determined by the dryness of the skin, the amount of linseed oil in the ink, and the method employed for removing ink from the skin surface. As a result of these facts it was possible to establish a prophylactic procedure, which advantageously prevents the appearance of the dermatosis. The older methods of arm and hand scrubbing in the presence of pigments gave rise to irritation, inflammation,

and even ulceration, the healing of which was retarded by the daily repetition of the process which, at times, resulted in severe eczema.

The simplicity of the prophylactic measures commends itself. It consists of rubbing lanolin thoroly into the pores of the hands and arms before entering the press rooms. At the luncheon period, the workers remove the ink without injury to the skin by the use of a mixture of sawdust and green soap, together with the use of warm water. After the lunch period and at the close of the afternoon's work, the two processes are repeated.

If, because of carelessness of the employees or laxity on the part of the management, an incipient eruption is noted on the hands of any worker, a calamine paint is to be provided, with adequate instructions for its application. The use of the therapeutic mass suffices to bring about a prompt healing of the lesions.

There is a satisfactory completeness in an industrial investigation of this character and it suggests the importance of establishing definite research institutions for studying industrial diseases. The utilization of clinics for industrial diseases for an extension of research work back into the factories and plants is desirable. Where corporations employ industrial hygienists, and maintain hospitals and clinics, research should be a natural part of the general program for raising the standards in the specific industry.

The mere recognition of pathologic conditions is insufficient, nor is the full goal achieved thru determining the proper therapeutic agencies to be applied. The fundamental facts to be ascertained are those relating to the nature of the causative element of any industrial affliction. A knowl-

edge of etiology is of transcendent importance in establishing rational prophylaxis. The great field of industrial process is open to thoughtful students and investigators, whose efforts will increase the health and well-being of employees and promote the efficiency of industry as a whole, by robbing it of much of its harmfulness and irritations.

A Question of Social Attitude.—There is an old adage relating to the problem of keeping the right hand in ignorance of the performances of the left hand. This is recalled by the contrast between the Oration on Medicine, read by L. F. Barker at the annual meeting of the Medical Society of the State of New York and various statements appearing in the Report of the Committees on Legislation and Medical Economics and of Councillors of District Branches. (*New York State Journal of Medicine*, June, 1921.)

Dr. Barker, in discussing "The Future of Medical Practice," offers this paragraph:

"It seems likely that State Medicine in one form or another is coming, and if it has to come at all, would it not be well for the medical profession to see to it that its beginnings should be such as are best suited for the welfare both of the public and the medical profession. Unless medical men foresee urgent needs of the sort mentioned and meet them, we may have imposed upon us some wholesale form of state medical service such as oppressed both the public and the profession in Germany as in England before the war. It would be most unfortunate should such premature and badly organized attempts be made in the United States. The medical requirements of the public must be duly considered. They should be early recognized by medical men and a campaign of education

inaugurated with the purpose of satisfying them in the best possible way." In contrast, one may place two quotations from the Report of the Committee on Legislation of the New York State Medical Society: (1) "It seems important to the committee that the medical profession should begin to consider seriously the menace involved to the public health, the public weal, and the profession, and evidenced by the continuous and persistent efforts of lay groups, highly organized minorities, in association with small but influential cliques of physicians. The end is to secure eventually complete control of the medical profession and to ultimately socialize it. The same groups that were interested in forwarding the scheme for Compulsory Health Insurance are now looking toward State Medicine, the entering wedge of which is the Health Center plan, which was to be combined with Compulsory Health Insurance." (2) "But most important of all is that the medical profession clear itself of all the groups and cliques who are striving not mainly for the benefit of the public and the profession, but for other and ulterior motives, or are acting upon the unsteady judgment that they must be right and the whole body of the profession wrong; whose chief idea is the formation of compacts with other groups for the purpose of controlling the election to office in the State Society. These evils must be exercised, the Society must be united, it must organize, it must educate the public, or if it does not, so surely as the tide covers the sand bar, the profession of medicine will become the tool or instrument of forces existing today in the commonwealth whose sole desire is power attained thru absolute control of the medical profession."

As an evidence of the unreasonableness of abusing minority opinions, even among medical men, one notes varying statements in the reports of different councillors. To illustrate, the First District Branch suggests that it does not want paternalism in the state. The Third District Branch reports that sentiment appears to be mostly against the Health Center Bill, "although a few think there may be some good in it." The Fourth District Branch reports "the

law of supply and demand, with the professional ambition of the country doctor to render good service, will take care of the medical situation in the rural communities if the state keeps its hands off. Lack of medical service in the country districts is largely a bugaboo born in the minds of welfare workers of the large cities or the capital districts."

Two paragraphs below is the admission that medical men in the northern countries are practicing under the handicap of not having a laboratory available for clinical work, and despite efforts of the District Branch to try to devise some way to maintain a laboratory in this section, their efforts have been in vain.

The Fifth Branch is of the opinion that health centers are not needed, but better means of transportation in the remote districts, despite the comment that more physicians are desirable in the rural districts.

The Councillor of the Sixth District Branch reports four towns in the county, ten to twenty miles from the larger centers, with no rail connection, and only partially served by state highways, in which there are no physicians, tho three paragraphs above appears the following: "There are no isolated communities in the county needing physicians which are not adequately cared for by physicians from the neighboring larger communities."

Regardless of the fact that the Sixth District Branch opposed health centers, the assertion is made that "no form of regulation is going to force the present highly trained physician to go into the small, isolated community, with its living disadvantages and the necessarily limited pecuniary recompense and professional isolation."

The Eighth District Branch feels that the scarcity of physicians in the rural sections is not due to the economics of the

situation, but arises from the fact that medical students are not taught to be general practitioners because "we are filling them so full of the refinements of the various specialties, and the technic of scientific laboratory work, that they leave college unable to make a bedside diagnosis."

This interesting combination of opinions and impressions, all designed to justify opposition towards legislation introduced by the State Commissioner of Health, indicates the vagueness of some forms of medical thinking when not based upon a consideration of the facts in evidence.

At this moment we are not arguing for or against what is termed "social legislation." It is desirable, however, to call attention to the attitude of Dr. Barker on the organization of medical practice in consonance with public needs and the doubtful wisdom of the position of some groups within the State Medical Society. It is difficult to believe with the Committee on Medical Economics that the plans for social legislation "do not permit of constructive criticism because they fundamentally obstruct the normal development of medicine." Nor can one grant that "this being the case the medical profession can find no justification in any other attitude than unequivocal opposition."

An attitude of pre-determined opposition and obstruction is dangerous. It hazards the safety of medical practice. It adds strength to those who oppose organized medical groups on the ground that their interests are entirely self-centered and take no cognizance of the public welfare. The voice of a minority is drowned in the clamor of the majority. When the majority of the profession may oppose a public project, if the majority of the population desires it, it becomes effective. After all, the attitude and opinions of the medical profession must

take into consideration the general trend of thought of the age in which it lives.

Having considered part of the problem of social medicine as evidenced in the proceedings of the New York State Medical Society, there is interest in a few paragraphs, at least, of the Presidential Address of Dr. Hubert Work, President of the American Medical Association. These four paragraphs are quoted without comment for the consideration of those who are dogmatically opposed to state aid for organizing health centers and for giving hospital care.

"There is need in every locality for health assurance, thru improved health service. Health centers are in operation, for which communities tax themselves in order that their indigent sick may be treated. Other communities propose to institute like service, asking the state to share the expense. They may aid the physician tremendously in caring for the sick, by conserving his time, and supplying laboratories and aids not otherwise available. Such centers should lessen expense to the ailing and stimulate medical accuracy, because under the supervision of several medical men."

"There is an opportunity thru them for physicians to assume their rightful place as an organized influence for health betterment in every locality. This will be rather simple of accomplishment. We have constructed, and in place, the machinery to develop these things: the county medical society, under our national center. The plan of organization is perfect. All that is needed is to revivify the county medical society, to stimulate it thru the state societies, and to enlist the public in our efforts to prevent disease and shorten sickness."

"Clearly, the state, or some unit of government, should contribute to install at convenient points the housing and apparatus necessary to medical precision, making it available to the poorest; but beyond that, an organized government should not go. The intimate relation between physician and patient must be preserved where it exists, and restored where lost, if we would give our best aid, and avoid a whole time state service, with its attendant commercializing of the profession of medicine, and

the stressing of trade features."

"If the state may properly support universities for training the student, and maintain hospitals for the custodial care of its insane poor, or a county may levy a tax for the maintenance of its county farms, logically the state or county may assess itself in order to treat its ambulatory sick, and to provide equipment to keep in earning health its essential human economic factors."

The Towner-Sterling Bill.—The medical profession is thoroly alive to the advantages of higher standards of education. Recognizing that the basis of national education is to be found in the elementary school system, there must be an appreciation of the advantages that accrue thru all efforts to improve the type of teaching given to the twenty million pupils in the United States.

Under general circumstances, education is regarded as a state function. It requires, therefore, no stretch of the imagination to discern the advantages to the nation as a whole that result from the thoughtful attention of states to their educational problems. It scarcely would appear to be a diversion of national funds when the federal government attempts to stimulate state activity thru a series of subsidizing appropriations that are to be distributed on the basis of equal appropriation by individual states.

The Towner-Sterling Bill is "designed to create a Department of Education, to authorize appropriations for the conduct of said Department, to authorize the appropriation of money to encourage the states in the promotion and support of education and for other purposes." There may be differences of opinion as to the necessity of creating an Executive Department of Education with a sec-

retary of education at its head, altho this is recognized as a normal procedure in most foreign countries. There would appear to be little reason for objection to such a Department, if constituted with or without a secretary in the Cabinet, to undertake research in illiteracy, immigrant education, public school education, and especially rural education, physical education, including health education, recreation and sanitation, the supply of competent teachers for the public schools, and a general field of higher education. Studies and investigations in these various fields have been made, in part, at various times, but without a broad, inclusive view of the entire problem as related to public welfare. It is obvious that the facts and figures to be derived from such studies and investigations could serve as the basis of a constructive program of primary importance.

Omitting consideration of all factors save the program of physical education, the medical profession should be a unit in favor of the appropriation of twenty million dollars, or so much thereof as may be necessary for physical education and instruction in the principles of health and sanitation. There is little question that the apportionment of such funds for the purpose indicated would advance physical education in the United States and raise the standards and contents of courses of study considerably.

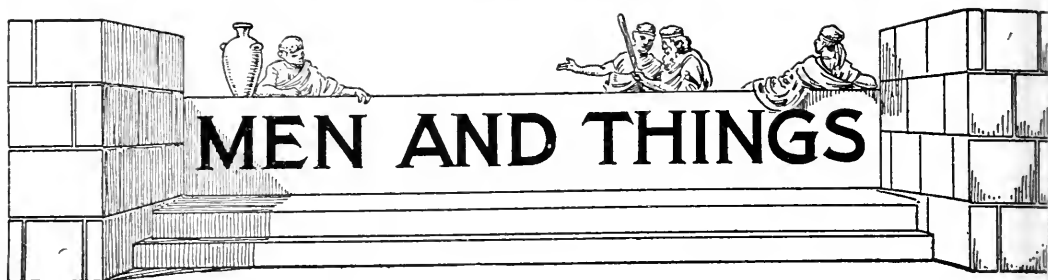
Patently, the expansion of curricula or the rounding out of courses of study, in themselves, will be inadequate, unless the teachers are properly prepared for imparting the necessary information. Considering the teacher shortage and the unsatisfactory standards of training, one realizes the potential benefits of the authorization of an expenditure of fifteen million dollars to cover a similar appropriation on

the part of all the states for the purpose of providing and extending facilities for the improvement of teachers and for the more adequate preparation of prospective teachers.

In the efforts of the medical profession to gain the ear of the public on matters pertaining to the profession, no opportunity should be lost for the expression of professional opinion upon matters of great significance to public welfare. The registration of conviction upon matters that only concern the economic welfare of physicians does not suffice to impress the public with a sincerity of medical interest in the general communal well-being. There is a strategic value as well as an obligation for state and national medical societies to take action upon state and national problems tending to advance public health.

The highest degree of leadership in our medical societies is to be secured thru the largest vision in the field of public medicine. The interest and reaction of medical societies upon the Towner-Sterling Bill, for example, would be a matter of interest. It would reflect the thoughtful opinions of men concerned with health problems, in addition to registering the convictions of the same persons as parents and taxpayers. To add value to medical opinion there must be concrete examples of its direction towards the numerous definite problems which concern all citizens.

While this single bill has been selected as an illustration of many bearing upon public health, it also represents one of many fields wherein prospective legislation possesses a medical phase. Herein lies an opportunity for greater activity on the part of the medical profession—an opportunity fraught with dignity and power, and tending to augment the status of physicians as citizens.



A Serious Loss to Medicine.—In the death of Dr. W. C. Abbott, editor of the *American Journal of Clinical Medicine*, medicine has suffered a grievous loss. His vision, his optimism, and his remarkable

be necessary to conduct certain of his activities along business lines. Many professional men would have found this the rock on which their hopes and aspirations would have been wrecked. But not Dr. Ab



WALLACE C. ABBOTT, M. D.

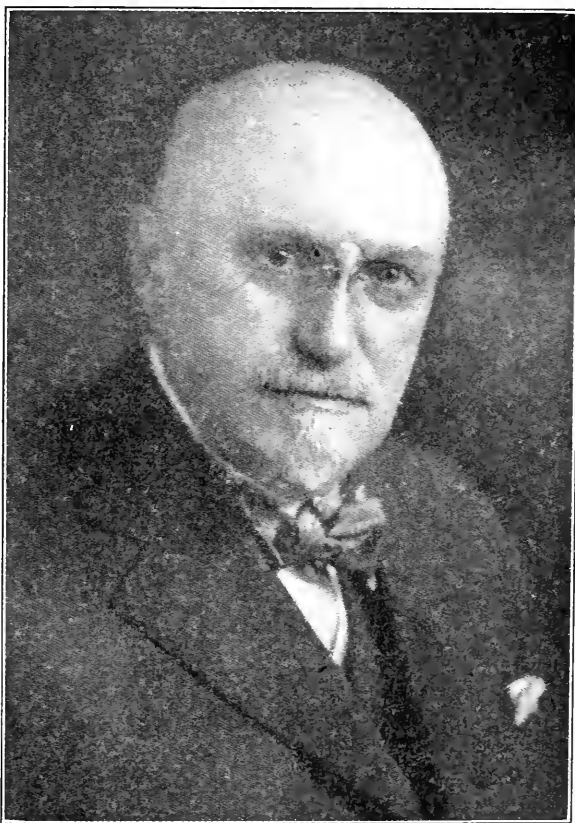
energy enabled him to help his fellow practitioners as have few medical men in our day. Early in his lifework Dr. Abbott saw that in order to accomplish what he wanted to in promoting the practical efficiency of the country's general practitioners, it would

bott. He knew that business, rightly grounded and conducted, could be kept as clean and honorable as any other phase of human endeavor. In other words, that offered as many opportunities for faithful constructive service as any other calling

Accordingly, he developed, as agencies for carrying out his purposes in behalf of practical medicine, the business organizations he was the head of as long as he lived. How he thus worked to place modern therapeutics on a practical basis and helped the general practitioners of the country to attain greater efficiency, is well known. But in making available to his colleagues the means of practicing medicine more con-

to listen, gradually but surely increased, and before he died he had the satisfaction of knowing that he could probably claim a larger audience of doctors in active practice, than any other medical man in America.

Dr. Abbott was a man of magnetic personality, a true leader by virtue of his strength of character, forceful energy and optimism. He was a fine companion, a clear thinker, and always willing to bear his share



GEORGE F. BUTLER, M. D.

veniently and effectively, he never missed a chance to emphasize the splendid opportunities for serving mankind enjoyed by the capable, conscientious physician. Among the finest phases of Dr. Abbott's life-work were his constant preaching of the gospel of efficient service, and never-failing efforts to stimulate American medical men, especially those in the more remote sections, to keep abreast of medical progress.

For a long time Dr. Abbott's voice was as that of one "crying in the wilderness." But the number who heard him and stopped

of the burden in any undertaking he entered into. Few doctors ever won a larger number of faithful friends, friends who respected and loved him for himself. On his part, no man was ever a truer or better friend to those with whom he came in intimate contact.

The Death of Dr. George F. Butler a short time before that of Dr. Abbott was a great shock that makes this latest affliction doubly hard to bear. The passing of

two such men so closely together is a loss that the American medical profession will feel for many a day.

Dr. Butler, whose demise we referred to last month, had long been associated with Dr. Abbott as a member of the editorial staff of the *American Journal of Clinical Medicine*. Few American physicians have been more greatly admired for their literary ability, more deeply respected for their professional skill or more beloved for themselves, than has Dr. Butler.

The deep and sympathetic friendship Dr. Abbott and Dr. Butler had for each other meant a great deal to both men, for each recognized the worth of the other. Only a few days before Dr. Butler's death he said to the writer, "I am afraid Abbott is a very sick man and will never take up the reins again. It makes me very sad, for he has been a real friend to me. Friends who assay as near to pure gold as Abbott does, are not often met today. I am going to Chicago to see him when I return." Five days later Dr. Butler died on the train on his way to Chicago, and less than two weeks later Dr. Abbott also "crossed the Great Divide."

The road of life runs along the mountain side. Most of it winds wearily on, with many a rough bit of going, but now and then a lovely view to cheer us and induce us to keep on, if only to see what lies just around the turn ahead. Here and there a rugged stone-strewn path leads out from the road and upward towards the mountain top. Other paths, much less rough but deeply worn by the tread of many feet, lead down the mountain side to the shadows of the valley below.

Many there are on the road of life. Some seem happy and care free; many carry loads which bend their backs and cause them to pick their way with care. A few loiter in passing, now and then a traveler falls by the wayside, while many of those with burdens take the beaten paths to the valley. But the great majority push steadily on with their eyes always watching for a chance to crowd in ahead and jostle aside some weaker or more tired traveler.

Once in awhile, some wayfarer takes one of the rough paths up the mountain side. Hard it is to force one's way along, for the obstacles are many and the footing is never secure or certain. Those who have the necessary courage and strength gradually make their way to the top, pausing only

to rest or to give a helping hand to some tired brother also struggling upward. Occasionally a climber will reach the summit and stand in the golden light of the setting sun. Like a beckoning beacon he will attract the attention of those on the main traveled road, and many who see him, will gird up their loins and bravely take the paths that lead to the top and the glorious sunlight. True, many never get far, for only a few have the strength to reach the crest of the mountain. But those who climb only part way, get a broader and better view, and best of all derive the satisfaction of having known and seen something else than the sordid struggle and selfish crowding of the main traveled road.

Dr. Abbott and Dr. Butler were men who took the paths up the mountain and won their way to the top.

The world will long remember the helping hands they have so often extended to their fellowmen, and the inspiration they have been to all of us as they made their way onward and upward. Bitterly we mourn the loss of these two fine men, but our hearts are full of gratitude that we have known the touch of their hands and the inspiration of their friendship in our own journey on the road of life.

A French Opinion of Prohibition.—

There is a prohibition movement in France today, a movement so feeble and so tentative as to be ignored by the public at large; and it is interesting to note that whatever little chance there is for the movement to make any progress in that country has been compromised seriously by the effects, well known and closely scrutinized, of the law in this country. It is an eloquent comment on the effectiveness of the Eighteenth Amendment to the American Constitution that, more than anything else, it has destroyed the little chance there was of the advocates of prohibition in France to make any progress whatever. Enthusiasts of the dry régime here may learn in what esteem their work is held abroad by a typical opinion on the part of a man well qualified to speak on the subject. In a recent interview appearing in the *Paris Journal*, M. Edouard Barthe, chairman of the Commission to Study the Drink Question, presents the example of America as one of the strongest reasons against the abolition of drink. "The dry

régime," asks M. Barthe, "has it made America more moral? Has the prohibition law brought happiness and calm to the country, has it been accepted by public opinion and is it respected by the citizens? Those who are acquainted with the facts in the case reply merely with a cynical smile. One merely has to scrutinize a few figures to conclude to the contrary. Philadelphia, despite the law, is as wet as ever. The bars are open and continue to sell whiskey across the counter as tho prohibition never existed. Drink was just as available in New York until recently, but Governor Miller decided, on his own initiative and independently of the federal authorities, to see that the law is obeyed. In six weeks, 2,500 bars were closed, \$12,000,000 worth of whiskey was confiscated, and a large number of stills were seized. Judges refuse to convict persons charged under the prohibition law, acquittal being quite general. It is quite natural as a result that underground methods for selling liquor have appeared, methods which not long ago brought about the deaths of numerous individuals. But in Washington the situation is more open. Rich families, members of Congress, and a majority of the Senators are wet, and they have in their cellars huge stocks of liquor which they declare, of course, that they bought before the law came into effect. It is an interesting fact that President Wilson, when he moved out of the White House in March, asked and obtained permission to transport fifty gallons of whiskey to his new residence! The upshot of it all is that large quantities of very bad liquor is in circulation, liquor often with deadly ingredients and generally consumed in dives and brothels in the company of the worst characters. This régime is making hypocrisy in America commonplace, and it is encouraging the worst excesses, for, to escape the vigilance of the law, many youths are drawn to secret places, where they easily acquire the habit of taking cocaine and morphine. Thus, the Puritanism of a minority is leading to a danger more serious for the race. Besides, the population in general is in revolt against the law. Forty mayors of the principal cities of New York State have issued a statement declaring that it is almost impossible to enforce the law in their cities because of its unpopularity. According to figures I have in my possession, the prohibition commissioner of Ohio admits that there

are 50,000 stills in operation in that state, as against only 100 before the law came into effect. The police department of Columbus acknowledges that one family in every four in that city brews its own beer. It is said that in certain sections of Ohio ninety-nine families in one hundred have apparatus for making their own distilled or fermented drinks. In view of these astonishing facts, who will recommend a similar course for France? We Frenchmen are much too sensible to let ourselves be misguided by the narrowness of a few disappointed individuals who are condemned to nurse their stomachs on mineral water and who want to confine healthier persons to their own limitations!"

Monsieur Barthe concludes with the advice of an ancient scholar who records the following anecdote: "May it not displease the powers that be," says this scholar, "but I recall a great banquet after which, on account of some of the stale viands offered, all those who drank water died. Those who drank wine, on the contrary, digested their food quite normally and had no bad effects. The lovers of wine and liqueurs were not even uncomfortable!"

A New Aspect of Divorce.—A White Paper on divorce issued by the British Home Office discloses a new and interesting aspect of the question, an aspect which is not especially British and which probably applies as well to all other countries. It appears from the figures that four husbands in the past year have applied for divorce on the grounds of unfaithfulness, as against one wife who demanded divorce on the same grounds. In other words, the impression given is that men are more faithful generally to the marriage bond than women these days, and that the proverbial superiority of woman over man in respect of marital virtue has disappeared. The figures have stirred a very lively controversy in England. "Are wives less faithful than husbands?" is being asked. Americans, who are accustomed to thinking that the divorce evil is worse in this country than anywhere else, will be either relieved or more depressed, according to temperament, by the British figures, which show divorce increasing in England perhaps even more than here. In 1919, divorce increased over

114% over the preceding year in England, and the increase since 1913 was 315%. That is about as bad as, if not worse than, our own situation. There is still another item of interest in the statistics: forty per cent. of the couples applying for divorce have been married for at least ten years. These facts reveal an increased instability in the marriage institution. The circumstance that couples who have survived the most critical first years and who, in former days, generally settled down to a permanent relationship, are now no longer content to pursue their bargain at such a late day indicate quite clearly that the awakening of individuality in the woman is the chief contributing factor to modern divorce. The fact that four husbands as against one wife bring charges of unfaithfulness is further evidence. The war, and the increased possibility of women attaining economic independence, together with the gradual emergence in the past few decades of woman as a social and political entity independently of her mate, has made the marriage problem a severe one. So long as woman was willing to abide by the moral standard which permitted latitude on the one side and demanded the narrowest observance of tradition on the other, the divorce figures remained practically stable. With economic and political entity, achieved, it is quite natural women should progress to moral entity. Unfortunately, the rapid events of the war brought about moral freedom so quickly as to make the change an unhealthy one, with all the excessive and unfortunate aspects of a sudden change that has none of the advantages of a slow evolution. The result is that, in a large measure, women have begun to assert themselves as men have been accustomed to assert themselves for many cycles: however, with this difference, men asserted themselves with little complaint on the part of women, but women cannot assert themselves now without encountering the vigorous opposition of the privileged male. If more men demand divorce on the grounds of their wives' unfaithfulness, it is not because men are more faithful. It is because men will not tolerate in their mates the liberties which they have so long enjoyed themselves with such impunity. Many will see in this new development cause for much pessimism. We are rather inclined to regard the situation optimistically. The final result, after a natural

period of instability, may be the imposition on man of a more rigorous standard or morality when once he learns that it takes two to make a divorce. When man realizes the bad effects of the example he has set, when he is forced to acknowledge that the double standard of morality is no longer tenable, when he comes face to face with the decision whether to accord the woman greater liberty or restrict his own, he will probably make a decision which will be of enormous benefit to the race. The instinct of self-preservation that is innate in the race will dictate a gradual alteration of tradition toward the establishment of a single standard at last. The present increase in divorce on the grounds of unfaithfulness on the part of the woman is, therefore, rather a sign of hope than of despair. It is but a temporary phase of a readjustment of moral standards which is bound to come in time.

The Land of the Free.—Up to the present, only two kinds of deprecatory propaganda have been recognized. If, in the United States or in any other country, systematic efforts to discredit accepted institutions of government were discernible, it was at once recognized as either German or Bolshevik propaganda. If one were to charge that such a thing as American propaganda exists, most Americans would either ridicule or frown at the assertion. The very word has an insidious, underhand sound which is foreign both to our temperament and our frank, overt methods. Yet there does exist such a thing, as American propaganda, and shockingly enough, it is being exercised abroad today by Americans who have none of the earmarks of the inimical propagandist, whose origin in many cases dates back to Colonial days, who have loved and do still love their country, but who, nevertheless, are inspiring European with an ever-growing mistrust in American institutions. Time was when every loyal American, in speaking of his native land, spoke of it invariably as "God's own country." To foreigners living under the irksome régimes of tyrant and corrupt rulers, America was the symbol of freedom. The tremendous immigration of the past generation represented the drift of discontented populations from land where they were slaves to a land where they knew they would be free. But during the past decade, "the land of the free" ha

unk sadly in the esteem of Europeans, and in the past two or three years "God's own country" has lost much of its divinity in the eyes of many Americans. The tide has turned. The influx of foreigners to America has practically ceased, and the exodus of Americans has increased in unprecedented proportions. These Americans are coming to Europe and they are coming with a feeling of disillusionment in the institutions of the country which they are imparting to foreigners. Prohibition, more than any other single event, has served to inspire Europeans with a firm belief in the hypocrisy of our people. This international aspect of the prohibition question has been discussed at length before in these columns. But now many American citizens are coming to Europe with the plaint that it is becoming more and more impossible to live in a country where every little while new legislation is introduced circumscribing the liberty of the individual and making it increasingly harder for him to live according to the dictates of his conscience or his will. It is a common event to read in the press of Europe, interviews with distinguished American citizens who protest against the persistent effort of narrow and visionless legislators to defeat all the aims and ideals of the founders of American liberty by restraints and impositions which are contrary to the spirit in which the laws of the country were first framed. They mention prohibition first of all, a measure which removed the benefits and merely increased tendencies toward all the evils of drink by inflicting on the population a restraint which the government has no means of carrying out wisely and which it has every opportunity to carry out in such a way as to produce the most disastrous results. They mention educational measures which rob the sacred institution of free education of all its benefits and impose a machine-made patriotism on both teachers and pupils which can have only a dwarfing and injurious effect on the minds of the future citizens. They emphasize innumerable other measures that make the life of a free citizen almost unbearable and measures to escape which they have come to Europe, which, despite its reputation, nevertheless allows more liberty to the individual to do and live as he pleases than his own country, with its constantly disappearing freedom, permits. And these relations, these protests of Americans

abroad, are beginning to have their effect. In all the large cities of Europe, the colonies of Americans dissatisfied with the reactionary tendency at home are growing in size. These elements, with true American outspokenness, are extremely vocal and constitute a vehicle for unfavorable propaganda which is all the more pernicious because it is so authentic. The situation is an extremely serious one. Our legislators should give it serious thought. And they can silence this propaganda only in one way—by reverting to the ideals of liberty which are rapidly perishing from the land.

The Renewal of Youth.—The *Evening Standard*, the largest London evening paper, has reported the death of a man who claimed to have renewed his youth in consequence of a surgical operation. The man had hired the Albert Hall, the largest auditorium in England, with the object of giving to the public an account of his rejuvenation, but he died on the eve of his proposed lecture. At the inquest a verdict of death from natural causes was returned, no light being thrown on the suggestion that the man had been the subject of a gland-grafting operation. This tragic occurrence, together with the announcement a few days ago from South Africa that another gland-grafting operation had been performed on an old man eager to become young again, raises a question of some medico-legal importance. Can a man sell his bodily organs?

The successful transplantation of the organs of the human body from one subject to another is far from being a remote possibility, demonstrations on animals having pointed to its practicability; and operations of this kind are now being tried as a means of renewing youthfulness. Indeed, the remarkable progress which surgery made during the war and an increasing knowledge of the function of what are known as the ductless glands make it quite possible that at any moment gland-grafting from man to man may become not only a question of practical surgery with public acquiescence, but a matter in which legal sanction may be required.

In this country there is nothing in the existing law which would prevent a man from agreeing to sell or give to another per-

son any part of his body, or which would prevent a surgeon from performing a grafting operation in consequence of such a sale or gift. The transfusion of blood forms a tolerably close parallel to such a proceeding, so far as the question of principle is involved. In Germany it would appear that legal difficulty might arise in regard to the transplantation of certain healthy organs, even with the consent of the donor, tho this would not be the case if a gland were removed for any medical reason. The property right of the owner to any organ removed from him can, in Germany, pass over to the recipient by a mutual agreement, altho no agreement is legally binding in regard to parts of the human body so long as they are in organic continuity with it. In this country, probably, no difficulty would arise where the disposal of bodily organs concerned members of the same family or persons in near relationship. Similarly, offerings would be made, when the need arose, by persons between whom the blood ties, tho less close, were constraining.

Other cases, however, suggest themselves where public opinion would rightly withhold its approval of or sanction for a transaction of the kind indicated. For instance, a wealthy man might desire to acquire an organ from a poor person. This would be looked upon with abhorrence if the temptation of a large sum of money were the incentive to the poor man's sacrifice, tho, if the transaction were a voluntary act the matter would be different. In any event, the case would probably be held to be contrary to public policy and such a bargain would not be likely to receive the sanction of a public court of law. Then again, should an injury result that had not been foreseen by the parties concerned, the surgeon might become involved and, in the case of legal proceedings, every effort would undoubtedly be made to attach responsibility to him.

It has actually been suggested that a kind of exchange and mart might be established in large hospitals and a system organized by which the organs removed from one person could be used for the benefit of another. A patient for instance might believe that he had been operated upon unnecessarily and for the benefit of another; or suspect that the surgeon had performed the operation to enlarge his knowledge by an interesting experiment, while

scandal would be afforded a ready subject for malicious pleasure. Accusations of a kind would indeed be easy to make, but difficult to disprove, and charges of malpractice, tho unwarranted, might seriously injure the reputation of a surgeon, an institution, both. The whole matter would not call for serious thought, if it were not common knowledge that they are being debated in high scientific circles.

The Picture on Our Front Cover-

It is our intention for the next few months to reproduce the pictures of famous American medical men whose lives and works have had a far reaching influence on the development of American medicine and surgery. This month we give the picture of Valentine Mott of Long Island, who was born in 1785 and died in 1865. He was a pupil of Astley Cooper and, like him, a great pioneer in vascular surgery. The innominate artery was ligated for the first time in the history of surgery by Mott in 1818, the first successful operation being that of Smyth, of New Orleans, in 1864. In addition Mott has to his credit the remarkable record of successfully ligating the common iliac at its origin (1827), the carotid or subclavian aneurysm (1829), the carotid for anastomosing aneurysm in a three months' infant (1829), the external iliac for femoral aneurysm (1831), the right subclavian within the scaleni (1883), the carotids simultaneously (1833), and the right internal iliac (1837). Besides the innominate artery, says Billings, Mott "ligated the subclavian 8 times, the primitive carotid 51 times, the carotid twice, the common carotid once, the external iliac 6 times, the internal iliac twice, the femoral 57 times, and the popliteal 10 times"—in all 138 ligations of the great vessels for aneurysm. Mott was also a bold and successful operator on the bones and points. He excised the right side of the lower jaw, after tying the carotid artery, in 1821, successfully amputated the hip-joint in 1824, excised the left clavicle for osteosarcoma in 1828, and removed a large fibrous growth from the nostril by dividing the nasal and maxillary bones (1824). In brief, Mott was one of this country's great surgeons, a man who was recognized by his colleagues as a remarkable operator. His work in blood-vessel surgery laid the foundation for much that is known of the subject today.



ORIGINAL ARTICLES

THE PSYCHOLOGY OF MUSIC.¹

BY

B. S. TALMEY, M. D.,

New York City.

Love of music is universal. Few persons do not love music and are not greatly affected by it. The effect of music upon primitive man is phenomenal. The crude

¹The science of music has been hitherto treated almost exclusively by physicists and physiologists. Recently the Freudian psychologists are beginning to lay hands upon this art and to drag it into the vortex of pansexualism. Phrases clothed in the most flowery language to dazzle the eye are not uncommonly met with in their writings, such as: "Sex ecstasies are the stuff out of which immortal melodies are sung, great pictures painted, cold marble etched with beauty." Such remarks are beautiful poetic expressions, fit to charm the eye of the unwary, but are they true? Granted that the germinating soil for the great achievements of life may be discovered in sex ardor, altho hunger, ambition, and love of appreciation play no mean rôle in the world of achievements, still the soil is never identical with the fruit. Soil and flower have not the remotest likeness to each other. True, the first articulate sounds were uttered in the service of sex passion (Talmey, "The Genesis of Speech," *AMERICAN MEDICINE*, September, 1919). Sex ardor has taught primitive man the first musical tones as it had taught the bird its charming song. But because, forsooth, the infant learns its first words from its mother, language and mother are two entirely different conceptions and do not stand in any relation to each other. Still an article the writer has recently read (W. Bardas, *Imago*, 1919, Vol. V) asserts that sex and music are pure emotions and stand in close relationship. How music can be called an emotion goes beyond the writer's understanding. The most we could claim for music is that it expresses emotions, and even this is aptly denied by Beauquier ("La Philosophie de la Musique"), who

monophonic music of the savage will stir his hearers to distraction and frenzy. Most animals delight in musical sounds.²

proves that music only provokes emotions.

But the pansexualist who is continually at the task of loosening the fetters of repression, the human mind has forged since the dawn of human understanding, is not greatly concerned with the exact meaning of his utterances. He is intoxicated with the exuberance of his florid cabalistic jargon. Or else what do expressions such as the following signify:

"Sex is the glorious fulfillment of life."

"It interprets life in big affirmations."

"It is big and elastic as life itself."

While the greatest philosophers since the beginning of history to the present day have not as yet fathomed the mystery of life nor have they been able to define life's essence and meaning or to discover its real aim, our author has already measured the elasticity of life. No human intellect has as yet discovered the essence of the soul, still our wise author knows that "sex liberates beauty and power in human souls." Upon such a pabulum are we daily fed by the pansexualists who can discover nothing else in this world but sex.

It behooves, therefore, the sober sexologist who is able to espy in this vale of tears quite a few little things, not controlled exclusively by sex, to contribute to the rescue of the art of music from becoming a prey of pansexualism.

²Experiments with violin tunes before the animal cages in zoological gardens revealed that scorpions become greatly agitated by music, and are writhing and dancing tumultuously, their excitement increasing with every crescendo and decreasing with every diminuendo.

Among reptiles, the lizard listens and sways at the violin sounds, the black snake starts up and hisses, the boa creeps nearer to the instrument and becomes enraptured, and the cobra raises itself into its characteristic attitude and sways to and fro to the rhythm of the tune.

Among the mammals, the bear stands up and listens, the wolf and jackal snarl and cower in fear, the elephant snorts and whistles with rage at certain music, and the dog often whines at certain tunes. Horses keep time to the rhythm of music. It has been shown that in cows, lis-

Now, whence comes this universality of the love of music? This question has agitated the philosophical minds of all ages. According to Euler, the mind perceives the commensurability of pitch numbers and derives pleasure from the discovery of the law and of the arrangement of these numbers. But the common man is surely incapable of forming an idea of ratios of vibrations. How does the savage or the animal experience consonance or the pleasing accord of sounds? Helmholtz (*Tonempfindung*) characterizes consonance by the similarity of two clangs thru their possession of identical overtones. Lipps (*"Grundtatsachen des Seelenlebens."* Chap. XI) finds consonance to rest on the rhythmic accord of unconscious excitations. Stumpf (*Zeitschr. für Psychologie*, 1905, page 269), on the other hand, seeks the criterion of consonance in conscious experience. The phenomenon of consonance is the result of an individual's tonal experience during his own life time.

It is apparent, as M. Meyer puts it, that neither the physicist nor the physiologist has succeeded to give a valid reason why certain combinations of tones are enjoyed by man. Hence, it is the psychologist's task to try to determine the esthetic laws of music.

Of the three liberal arts, poetry, the plastic and graphic arts, or representative art, and music, poetry describes actions, representative art depicts situations, and music portrays emotions or rather paints two par-

tening to music, the quantity of the milk is increased.

Monkeys listen eagerly to music with nods and gestures. Some monkeys turn away in disgust from the timbre of certain instruments.

Among civilized men, music gives pleasure to more people than any other art ever does. Almost everybody enjoys music. Music is the general reflex of culture, it is the sentimental gauge of the progress of evolution.

ticular emotions, recoil and action, or joy and sadness, and thru these two primary emotions appeals to emotional states in general.

Poetry, classical poetry, rarely or never describes situations or things. When the necessity for such descriptions arises, true poetry turns every situation into action. Homer does not describe the shield of Achilles, he lets Hephaistos forge and shape it before our eyes. Goethe (*Hermann und Dorothea*) does not describe the estate of Hermann's father, he lets mother and son wander thru the fields, meadows, gardens, and courts, and in this way shows us the wealth of the family's possessions. Homer does not describe the beauty of womanhood, he shows the effect the beauty of Helen had upon the 70 aged senators of Troy. After all their sufferings for ten years thru this woman, they could still exclaim, at her sight:

"No wonder that Trojans and well-shinned Achæans should fight for such a woman so long a time."

"Her beauty equals immortal goddesses in shape."

This effect reveals her beauty better than any detailed description. We know not whether she was blonde or brunette, short or tall, stout or slender, but we do know that she must have been beautiful.

The lyric poet of the "Song of Songs" does not describe the beauty of Solomon's bride. He compares her beauty with well-known charming pictures in nature:

"Thy eyes behind thy veil are two doves."

"Thy hair is a flock of goats descending Mount Gilead."

"Thy teeth are a flock of shorn sheep, coming from washing, all twin bearing, none barren among them."

"Like a thread of scarlet are thy lips, thy words sweet."

"Like a piece of pomegranate are thy temples within thy locks."

"Like the tower of David is thy neck, built as an armory, a thousand bucklers hang on it, all shields of men mighty."

"Thy two breasts like two roes, twins of a gazelle, feeding among lilies."

Nobody will now question the charming beauty of the girl. Still nothing determined is said about her. The poet leaves it to the imagination of the reader to draw his own picture of her charms.

The representative arts, painting, sculpture, and architecture, depict situations. Momentary action, *i. e.*, an action which by its very nature could only last a few moments, does not lie within the scope of these arts, if they wish to give esthetic satisfaction. Our subconscious self rebels against the permanency of such an action. A laughing satyr may please for a time, but after a little while we ask ourselves when he will stop laughing, when is the mourning mother going to cease crying, when is the carnage on the battlefield going to end? True art depicts situations which have a certain permanency, such as scenes of nature, portraits, etc. When the artist does portray a certain action he chooses, as Lessing has long ago shown (Laocoon) two consecutive moments, not unlike two consecutive pictures in the moving show.

Thru the selection of certain themes, representative art can express situations with accompanying definite psychic states, such as fright, anger, contempt, pride, or determined emotions. But the plastic and graphic arts by attempting the representation of a particular mood, of a definite not general mood, appeal to the intellect. An art which tells that it expresses a certain

sentiment and no other is subject to the intellect.

Music, original music, the song without words, expresses itself in a general undetermined manner and speaks to the emotions in general. Music represents only the tone of thought, the precise phase is left to individual application. The intellect has no part in primary music, in the song without words, in the melody of the singing bird.¹ Music paints joy and happiness, pain and distress, or rather provokes these emotions. Music is gay or sad, violent or quiet. Hence it depresses or excites us. We are sad or gay. Music does not express different emotions, it produces them in us thru the soul's sympathetic response. Music does not even imitate, as the arts of form do, where attention is given to spatial sensations which are expressive of all that lies behind the phenomenal world.

Music expresses contents which are without an adequate natural medium. It is free, undetermined. It appeals to the soul's appreciative capacity. It induces a receptive and appreciative state of the mind. It puts the soul in a receptive mood and suggests unconsciously, by the association of ideas, different psychic states thru which the hearer has once in his life previously passed. Music does not create new emotions, its emotive power lies in recalling to our memory previous states of our mind. Music is, hence, not a language in the strict sense of the word which addresses itself to the intellect. Music expresses general sentiments, contrary emotions and passions

¹ Such a thing as a musical theme dwells only in the imagination of the musical critic. It does not exist. You may strain your phantasy to the breaking point, you cannot play the ten commandments on the piano, you cannot portray Solomon's temple on the violin, the Wagnerian enthusiasts to the contrary notwithstanding.

are not seldom sung under the same melody in the duet.

Music is an inarticulate, unfathomable language and appeals to our emotions only. Where it appeals to our intellect it is an artifice and ceases to be universal. Vocal music speaks to our intellect thru the words. In the song with words it is the content or the poetic effusion that moves us rather than the air or melody. In the opera it is the acting singer who appeals to our intellect. The air expresses his own particular emotion and nothing else. The melodic phrases, the leading melodies or motives are artifices—tricks of the composer. The Perceval motive has nothing in common with Perceval's character or the Gudrun motive with Gudrun's life or the Church motive with the holiness of a church. Well-known church music resounds each time we approach a church; a certain melody is heard every time a Perceval appears on the scene, another air when Gudrun is near. We soon detect their approach by the sound of their leading melodies. But such appeals to the intellect are foreign to primary music. Hence, the opera does not so universally appeal to man. Few people really like the opera. The majority of mankind likes only a few airs in each opera which speak more to their emotions thru the sounds than to their intellects thru the words. When people assert that they love the entire opera, it is the suggestive power of the few which evokes this assertion. It is the instinct of mimicry which provokes the claim, to do as others do, to fall in, to be in the swim, to be considered of an artistic temperament.

Plain music, the song without words, or instrumental music, speaks to our emotions thru pitch, rhythm, and mode. The major

mode, or the increasing chord, with its regular ascending proportions, awakens joy; the minor mode, or the diminishing chord, with its irregular obscure proportions, produces melancholy and provokes languor and sadness. High notes awake joy and gaiety, the feeling of welfare of contentment, and inspire the soul to action. The low notes produce sadness, fright, mourning, and a feeling of inertia. It inspires calmness, rest, sleep, and Nirvana. The rapid movement of the notes expresses life, vitality, well-being; the slow movements provoke the feeling of suffering, languor and death. The slow, dying note tells us that the moments of our life are slowly but surely passing. The evanescence of music tinges even its greatest enjoyment with a shade of melancholy. It is a beautiful tragedy. Intense, exquisite delight is not incompatible with sadness. There exists a pleasure productive of joy and a pleasure productive of sadness. We often cry of esthetic emotion. A single sound, by its very timbre, has often an incontestable effect upon the soul of man, expressing the urge of the soul towards the absolute.

The tenor with his high timbre expresses ideal youth, the ardent aspiration for the ideal felicity. The baritone represents serious middle age, the passionate yearning for the unattainable, the avidness after the meaning and aim of life. The bass reminds us of old age, of the tragedy wrought on man, of the miseries of this life, and of the stifled moan of pain.

Every one thus finds in music something akin to the sentiments he harbors within his own breast. Music speaks to pure undetermined sentiments to unconscious general dispositions. We do not depend upon the artist who projects the life that is in him, his own hopes and fears, the

passion and vision that must be uttered, the sentiments of the sublime and the will to live by the continuance of life thru art. We discover fear or joy, delight or repugnance in any air or melody. The cries of fear and of joy were the first primary tunes uttered by our ancestors in the primeval tropical forests in ages bygone. These tunes became the basis for musical art, and the two primary emotions which provoked the cry are still controlling our daily life.

It is for this very reason that we find pleasure in listening to any lay, sad or joyful. Songs which appeal to us most are the elegiac folk songs. In our happiest moods we find ourselves humming: "All the world is sad and dreary." When the German is in his jolliest wine mood he sings: *Ich weiss nicht, was soll es bedeuten, dass ich so traurig bin*. Heine may have been in a depressed, downcast mood when he wrote this popular song, but the singer or the hearer of this song does not share the poet's or composer's sorrow. The phantasy of the individual listener is not limited by the mood of the artist. The individual creates his own mood and thus becomes himself a creative artist. What the hearer needs to become creative himself is an emotionally toned tonal sensation. Whether the melody expresses fear or joy, comfort or aversion, hatred or love, courage or cowardice, grief or happiness does not matter, provided it is emotionally toned. The listener will create his own emotions, suitable to his mood. What he needs is an awakening of the feelings and emotions the phylum has felt thru all the eons of its evolution. The melody needs only to project any of the primary emotions into the heart of the listener, and all the other emotions, provoked once upon a time in the remotest epochs of man's development, are set in

vibration. We are then transferred to the remote regions of infinity and live again in the bygone ages. We lose the sense of time and space. We soar again, in the astral regions, as separate electrons, before their incarnation into atoms of matter, in union with the divine energy which fills the universe, an inseparable part of the creative Spirit. Music puts us into an eternal reverie, dreaming of our unknown origin and our unknowable destination.

The fleeting tones of rhythmic sounds find an organic reverberation in our own hearts. We live thru the remote ages when the young anthropoid emitted rhythmic sounds, calling for his mate in his estrual period, and invoking in her vague, inarticulate longings and undifferentiated aspirations. Love stress taught man the first musical sounds, as the erotic urge taught the bird its first songs.¹ The psychic overtones of erotic allurements calls formed the root idea of the musical air.² (Talmey, AMERICAN MEDICINE, Sept., 1919), and this tonal feeling left an indelible imprint in man's mind to the present day. All these mnemonic elements are put in vibration the moment an emotionally toned air resounds. Music allows us to divine our origin, it reguides our wandering spirits to the distant times of creation, and lets us participate in the divine creative act.

Still, all this does not explain our love for harmony, and it is after all harmony which provokes our emotions and gives us the greatest joy and pleasure. The same

¹ Bird music has paralleled human music. The perfect quint, quart, tierce, and octave have a marked predominance in bird songs.

² There can be no doubt about the sexual origin of music, just as articulate speech owes its origin to sex ardor. Still it would be an unesthetic generalization to include music in the category of sexuality. Sex and music do not stand now in any relationship whatever, altho music may provoke erotic desire as it provokes any other emotion.

tone steadily repeated causes repugnance and aversion in the cultured man. Why does the monotone, repeatedly sounded, become monotonous? Why does it displease? This question has been raised some time ago by Schopenhauer (*Die Welt als Wille und Vorstellung*, Liber III. § 52), and his answer is in accord with his philosophical theory about the Will in the World.

Just as the world or the idea represents the objectivation of the Will, so is music a copy of the original, an image of the All-Will. The other arts represent the image of an idea, or the image of an image. Music is a true copy of the Will itself, it thus runs parallel with the idea or the world. The lowest note, or the root note, with its sixteen vibrations to the second, represents the low grades of the objectivation of the Will, the anorganic nature, the mass of the planet. All the higher tones, the *quasi* descendants of the root note, are set in co-vibration or consonance at the stroke of this note. So are plants and animals descended from the anorganic mass; they are thus represented by the high notes. The highest scale of the objectivation of the Will is reached in man, in his life and aspiration. He is the only one among all animals who can cast a glance at his past and look forward for the future, a picture of the melody which is continually returning to the lower notes and advancing again to the higher. Music thus relates the history of the Will, illuminated by reason, and hence appeals to beings endowed with reason.

The ups and downs in music are symbolic of the world in general and of human life in particular. At the dawn of the morning, the young day begins to grow brighter till it reaches its zenith at noon. Then it goes downwards continually, till at the dusk

of the evening it dies away like a musical tone. The young plant stretches its head out of the bosom of mother earth. Then it grows and blooms and ripens and brings forth fruit. Thereupon it declines gradually, and when the fall winds come, it dies to begin the cycle of life again in the spring that is to come, a picture of the melody. The new octave brings new life to the melody, when the previous note appeared to have died forever without hope of resurrection.

The melody is especially a picture of human life. From the moment the newborn infant leaves the womb till the aged enters the tomb, man has his ups and downs. The child grows into man or womanhood, reaches his zenith, then begins steadily to decline and dies away like the last tune of the song. During this span of life man is continually at war with his environment, with the inclemencies of the seasons, with the air and its disease-carrying bacteria, with the vegetable world of poisonous plants, with the animal world, and last but not least, with his fellowmen. In all these struggles he has his ups and downs. Sometimes it would seem as if the song were at an end, as if the air had died for good. But a new octave appears, the life forces reappear and are awakened to new life. Then the organism grows again, and man strives to reach an uncertain, unknown goal that lies hidden on the knees of the gods. At last the song is at an end, and man returns to the bosom of mother earth whence he came. But is the song really at an end? Is there no re-awakening, no resurrection? Music lets our subconscious psyche divine that there is something beyond.

This symbol of human life found in harmonic music has, no doubt, some influence

on man in his love of music. The symbol may explain man's emotional reaction to music, the reaction of the outer world of rhythmic vibration upon the inner world of emotion. But is this all? A symbol is only an analogy, an allegory, and stands in no organic relationship to the human organism, and the universality of the love of music would seem to require such an organic connection between the art and the organism. This relationship has been found in the harmonic proportions, common in the human body and in the tonal vibrations, by the fundamental discovery of A. Zeising. This discovery gives the answer to the whence of the conscious feeling of pitch-distance. Why are two tones related?

But before proceeding any farther in the description of Zeising's epochal discovery, a succinct review of the principal points of tonal lore will be of great service to the better understanding of Zeising's law of proportions.

The elemental sound embraces at least four important attributes: intensity, rhythm, timbre, and pitch. The intensity, or loudness of a sound, depends upon the initial force which sets the body sounding, just as the width of the swinging pendulum depends upon the dynamic factor setting it swinging. The greater the force of the push, the farther goes the swing of the pendulum, and the greater the stroke of the string or of the tuning fork, the greater is the width or amplitude of the vibrational wave of the sound. The intensity of the one depends upon the force of the vibration. The double vibration of a composite sound of two unison notes will give a double loudness. Two notes with the same number of vibrations, in perfect unison, give a note of double loudness. A note played by one violin is soft. The same

note played by a number of violins, is loud. The intensity of the sound is expressed by crescendo and decrescendo.

The second attribute of the sound is its rhythm, or the duration of the tone from the initial moment till it has died away. What the point is in space, an abstract conception without dimension, that is the moment in time. The straight line is defined by two points, the dual metre is determined by two moments. It measures the duration between two moments. The line is the spatial measure of space, the metre is the temporal measure of time.¹ A variety of lines in a certain relation to each other, expresses form in space, and a variety of metres gives the rhythm in time. Rhythm thus expresses order in duration. The rhythmical figures are *accelerando* and *retardando*.

The rhythm has a great power over the human organism. The tyranny of the rhythm is universal. When a march with a quick rhythm is played, the little infant in the arms of his nurse will begin to hop and dance. Rhythm is the creator of the dance. Rhythm creates in man joy or sadness, enthusiasm and courage or depression and alarm. Slow, muffled music slows down circulation, calms, reposes, puts to sleep. Rapid, violent music whips the blood to action.

The third quality by which musical sounds vary from each other is the timbre or clang-color. By this tone quality, different voices or instruments are distinguished from each other. The same note played by the violin differs entirely from that played on the piano. The timbre or clang-color of a tone is tender or severe, emotional or

¹ Each move of the conductor's baton marks a moment. The tambour is an exclusively rhythmic instrument.

sombre, caressing or repulsive. Rage, pity, joy, or pain, each give a certain timbre to the human voice.

The timbre of a clang depends upon the number of overtones into which it can be resolved. The root-tone with its overtones coalesce into a clang. The quint, *e. g.*, occurs five times in the first 16 overtones of a clang. Hence, the clang by its harmonic overtones is equivalent to a compound sound. Thus the clang represents an accord, or the simultaneous agglomeration of different harmonic sounds. The melodically related tones in the clang of a church bell tend to establish a perfect tonality. The same is true of every musical sound. Every tone is accompanied by a train of lesser tones, or partials, overtones, harmonics. The human voice abounds in such overtones. The softness of a voice is due to its harmonious overtones; the harshness of a voice arises from unharmonious overtones.

The most important tonal quality is the pitch, or the height of the musical sound. The core of the melody problem is the pitch relation. The pitch of a note is based upon the rate of vibrations of the sounding body.

If a rope is attached at one end and held in hand at the other end and the hand gives it a jerk, a wave is produced which proceeds towards the point of attachment, forming on one side the crest, on the opposite side the trough of the wave. When the wave reaches the attachment point it immediately returns to the starting point, with the crest of the wave on the side where before was the trough. When the starting point has been reached the wave starts again towards the attachment point, to repeat the same journey again and again like the swinging pendulum, until the initial force has been spent or exhausted. When such vibrations

are made at the rate of 16 to the second, they become audible to the ear. We perceive the lowest note of the bass, found in the large modern church organs, which note has 16 vibrations in the second.

The vibrations of the whole string of an instrument provoke the root note of this string. Besides the original wave, there are two other waves synchronously started from either end of the string, with their own crests and troughs, which only reach the middle of the string and return thence to their respective starting points. The starting point is reached by the secondary wave at the same instant when the whole wave has only reached the attachment point, or it has gone to and fro while the main wave has only gone to. The secondary wave, therefore, makes two vibrations while the main wave finishes one. If the whole string make 16 vibrations in a second, the two half segments make each 32 vibrations in the same time unit. Hence, these half segments emit a sound which represents the octave of the root-tone. A third wave is also started simultaneously with the other waves, and this third wave again only reaches the middle of half segment, or the fourth part of the whole string, and immediately returns. The quarter segment makes thus 64 vibrations in the second, and emits a tone which represents the octave of the octave. Many other intermediate waves are simultaneously started which in their vibrational rates emit sounds equivalent to the quint, major tierce, etc., of the root note. These different notes are the overtones, harmonics or partials of the root note. Their rate of vibration depends upon the length of the ventral segment. The longer the segment the slower is the rate of vibration.

The same law holds good in regard to

different strings. The rate of vibration of a string half the length of another will be double the number of the vibrations of the longer string. Thus the vibration number varies inversely to the length of the sounding material. The shorter the string the more rapid is the vibration, and the more rapid the vibration the higher is the tone. The lowest audible note is 16 vibrations, the highest note is 4,752 vibrations to the second. The pitch of a sound thus depends upon the rate of vibration of the sounding body.

When sound vibrations strike the human tympanum, this membrane transmits the vibration by the way of the otoliths to Corti's organ, and the rods or fibres of this organ thrill in response to the air-vibrations. The number of these rods varies from 3,000 to 26,000, each rod tuned for a certain note of the musical register. Hence, they are in a position to separate the different notes, not only of an accord but also the different overtones of a clang or a musical tone.

The organ of Corti represents a complete harp. The rods or fibres are attached to the cochlea as their sounding board, and each connects with the auditory nerve. This nerve carries the sensations to the acoustic center in the brain where the air-vibrations are perceived as sounds. How the transformation of a mathematical motion into a conscious perceptive feeling is accomplished is still unknown. The abyss between matter and mind has not yet been crossed by science.

When two sounds of a different pitch give a pleasant feeling they are said to be harmonious. Harmony relates to the pitch relation of two or more musical sounds. Harmony results from the concord of two or more strains or sounds of a different pitch. The consonance is based upon a

certain proportion of the vibrational frequencies. The root tone whence the other tones had sprung, the center of the musical scale, is the tonic. In the diatonic scale the vibrational frequency of the octave is double the number of the tonic, or the octave is to the tonic as 2:1. The quint is to the tonic as 3:2, and the major tierce is to the tonic as 5:4.

In the diatonic scale two tones are directly related, they form a consonant interval, *i. e.*, one of the upper overtones of the first is identical with one of the lower overtones of the second. Three tones are said to be indirectly related when each stands in some direct relationship to a third. The difference in pitch of any two notes is their interval. The notes of the harmonic series which form agreeable harmonies with the tonic are the octave $\frac{1}{2}$, the quint $\frac{1}{3}$, and the octave of the octave $\frac{1}{4}$. Unison sounds are in relation as 1:1. When two notes are sounded which are not quite in unison but have almost the same number of vibrations, then beats are formed. The harmony of the octave with its tonic is consonant. There is a complete absence of beats. When these two notes are sounded together, the ear does not distinguish two notes. The first six notes of the diatonic scale are consonant, the intervals are melodic.

Melody is a succession of musical sounds, created by a pitch relationship of successive tones, which are felt to constitute an esthetic unity. The constituent tones of the melody have fixed mutual relations. Melody depends upon the accuracy of the intervals. In the melody the duration of the notes is uniform. When one sound is arbitrarily selected as a starting point, it becomes the tonic or the key-note of the tonality. The other notes, such as the tierce, quint, octave, etc., stand in a pre-

cise relation to the tonic. Melody is, hence, an esthetic unity in which the constituent tonal elements are subordinated to a single dominant element, the tonic. Melody is thus based upon tonality, or the dominance of a tonic, upon tonal relationship, and upon unity or wholeness, in contrast to fragments of a melody. The tones of a non-melody are felt to be unrelated. They lack coherence, continuity, completeness; they do not belong together. The pitch in the non-melody wanders incoherently and disconnectedly. The non-melody fails to bring the feeling to completeness. The sounds of the melody are felt to belong together, to cohere, to be a unity. The sounds follow each other naturally, accordantly, till with the last sound of the series, the melody comes to an end.

As indicated above, the problem of consonance, harmony, and melody turns around the pitch as the pivot. The pitch depends upon the rate of tonal vibration, which represents an arithmetical proportion. Now, the question why an arithmetical proportion should have such a tremendous effect upon the human mind has not been answered by any psychologist. The answer to this question, the writer believes, may be found in Zeising's law of geometrical proportions. This writer (*Neue Lehre von den Proportionen am menschlichen Körper*, 1854) made the important discovery that there is a fundamental morphological law underlying entire nature in general and art in particular, and this law is based upon the Golden section, or Divine proportion.¹ This ratio is a symbol of the uni-

verse, it is its image, such as Plato's idea, *Kant's Ding an sich*, or *Schopenhauer's Satz vom Grunde*. This section represents the whole whose parts stand in the same proportional relation to each other as to the whole. The ratio is hence an image of the all-comprising Divine energy, permeating all creation. It is an image of unity within diversity.

This ingenious theory of Zeising could not be proven and verified till Dr. Albert Goeringer (*Der goldene Schnitt*, 1893) succeeded in constructing an instrument which he called the golden compass. With the aid of this compass, Goeringer undertook actual measurements of the most beautiful pieces of art, architecture, sculpture, and painting,² and his statistical records show that beauty is constructed on the principle of the golden section. The esthetic pleasure a thing may give us depends upon its approximation to or deviation from the divine proportion. Any divergence from the golden proportion is felt by us as an error and deprives us of esthetic satisfaction, because it is alien to our own organism which is constructed in the proportions of the golden section.³

With the same pair of compasses, Goeringer made linear measurements of musical notes in the following ingenious way: He had a number of glass tubes constructed, all having the same note. He

¹ The name, *sectio aurea seu divina*, has been given by Pacioli (*Divina Proportione*, Venice, 1509) to the proportion, found by dividing a line in the extreme and mean ratio, *i. e.*, when the major part of the line is to the minor as is the whole line to the major. (*Vide* Talmey, "The Law of Beauty in Human Anatomy, *Medical Council*, February, 1908.)

² The instrument consists of a pair of ordinary compasses and a middle piece consisting of two arms joined together at their ends, the other ends joined with the legs of the compasses at certain points (Talmey, "The Law of Beauty in Human Anatomy"). The two ends of the compasses and the rivet of the two arms, these three points, lie always on a straight line, and the rivet point is constantly the golden point of this straight line.

³ If we apply, *e. c.*, the points of the compasses to a beautiful human body from the crown of the head to the sole of the foot, the golden point lies on the waist line. A beautiful body is divided in the waist line in the extreme and mean proportion.

then filled the tubes with a fluid to different levels, and thus shortened the air columns, till they gave a diatonic scale when clanged. He then measured the air columns of his harmonic tubes with his golden compass and found their lengths are in the golden proportion.¹

This discovery establishes a close inner relationship between the acoustic stimulus and the perceiving organism. Both are built in the same proportion. This relationship accounts for our attachment to sounds in general and certain harmonic melodies in particular. The analysis does not need to go any farther.² This relationship forms the basic cause of esthetic satisfaction. Tonal attraction is due to the fact that tone and organism are both built on the same plan, the divine proportion. The same architect has used the same compasses to construct a tone and to build an animal organism. For this reason the animal has a certain affection for his tonal brother. The organism co-vibrates with the tonal vibrations of the musical instrument. The organism actually feels the vibrations. The higher the animal rises in the scale of evolution the more it is attracted by complicated tonal combinations, by beautiful forms of rhythm. Brain correspondence increases with knowledge. Primitive men and children are satisfied with the repetition of the same note. With the advance of

culture man finds such a monotone monotonous. But when a melody resounds, all the fibres of the human body, built in the same golden ratio, are set in resonance, or co-vibration, and resound in one divine symphony.

The human organism tends to vibrate synchronously each time the individual's constitutional key-note is struck. When a melody is played, all the fibres of the organism are set vibrating in a perfect symphony, hence the harmonic feeling, hence the esthetic pleasant sensation. The reverberating vibrations of the organism obey the same laws as do the musical sounds. It is man's soul itself, in its material life, that is in motion. The soul is attracted by the harmony of sounds and subconsciously rejects every dissonance, because it is alien to its own nature. Harmony consists in vibrational sympathy between tune and organism. Hence, even when accords succeed each other without any melody, like the song of the bird, they afford a pure material pleasure.

In the constitution of man the art of music is latent. Music is innate in man. This kinship attracts us. Harmony speaks to us of the profound agreement of the external and internal world, and there is harmony in every single musical sound. Even the detached sound contains a train of harmonics, or overtones, which are in harmonic vibrational proportion with the principal parts of our body. There is a corresponding air column of definite length for every musical note which resounds to this note, and the height of this column is in golden proportion with the fibers of the human organism.

The intervals of the diatonic scale are, if expressed in straight lines, in the proportion of the golden section, just as the

¹ The most beautiful accord in music, the part-sext-accord, was found by Goeringer to form a harmonic series. A line AB, divided at C, internally, and at C', externally in the extreme and mean ratio, or according to the golden section, or rather three strings of the same lengths as such a divided line, give the nic-tierce-quint clang, or the three-clang.

C' A C B

² Just the same holds good when the reason for parental love is shown to be due to the fact that the offspring is a part of the parent, that has evolved from two parental cells. No further analysis is necessary.

parts of our body. Hence, the tones are felt to cohere, to belong together, to articulate, to form parts of a larger whole. It is a unity in variety. It is based upon the same principle underlying the cosmical plan. "All is number and harmony," says Pythagoras. The diatonic scale has qualities of universality and at the same time the character of finality. It expresses the interrelation of all parts of the universe. Music reveals the integral parts of the interwoven laws of the universe. Music is the cosmical agent, it is the symbol of the whole cosmos. The music of the spheres and the sidereal symphony, is not entirely an empty phrase. In music, the perception of time is coeval with the conception of space. "Music is a loftier revelation than all the wisdom and philosophy," says Beethoven.

When the key-note of the cosmical music resounds, man appears to lose himself in the infinite. Even the most hardened soul melts at the sounds of heavenly music. The soul commences resounding by consonance, even as in two unison tuning-forks, one resounds when the other is struck. As the air column is set in resonant vibrations by a note of suitable pitch, so does the entire organism feebly, inappreciably, resound in sympathy, when the key-note of all harmonies is struck. At the base of this note dwells a unity in the same ratio to the component parts as the parts to each other. Only in this way could a feeling of unity or consonance be aroused by a series of discrete tonal stimuli, only in this way could musical appreciation be explained. The pleasurable sensation caused by a concord is hence not attributable to the regularity of the vibrations but to the proportional unity between the resounding air column and the parts of the body. The consonance depends upon the apprehension of straight

lines of different lengths, in proportion of the divine section.

The discrimination of pitch, therefore, tends to follow not a pure arithmetical series of vibrational increments, as hitherto thought, but a geometrical series of straight lines. Lines in architecture are made pleasing when one line reappears as a fractional part of the other, so that one involves the other. This constitutes the law of beauty, founded on the apprehension of a geometrical basis. A color contrast is beautiful when there is a subconscious apprehension of the harmonic proportion in the combination of the lengths of the ether undulations. Music delights when there is an apprehension of the harmonic proportion in the lengths of the air waves. It is an apprehension on a geometrical basis. We hear the intervals geometrically. The triad, as the fundamental element in consonance, is symbolic of a beautiful geometrical figure and therefore, gives a sense of well-being. Consonance pleases because a resonance, or synkinesis, *i. e.*, a sympathetic vibration is set up in the body by the vibration of an air column, where body and column have the same geometrical construction.

Music, therefore, speaks to us the only universal language,¹ understandable by every one in all times and in all climes. Built on the same principle, music instills in us sympathy and symphony. We feel that here is the Spirit of the universe speaking to us. The high pitch and the quick rhythm make us glad, the slow rhythm and the low note sad. When the rhythm

¹ Language is used here in a metaphorical sense. Music, in the strict sense of the word, is no language. Language addresses itself to the understanding, the intellect, and is determined. Music appeals to the feelings, the emotions, and is undetermined. But man's emotions being almost identical in all climes, among all peoples, in all ages, music is understood by man throughout the whole world.

quick, when one tone follows rapidly the other, ending in a trill, we feel gay and joyful. The allegro awakens the emotion of happiness, the slow adagio brings depression. Here every note is allowed almost to die away before the next note is struck. We feel death approaching and are affected with sadness. The high note recalls youth and awakes exaltation, the low moll notes remind us of old age and causes depression. The slow rhythm reminds us of death, the rapid rhythm expresses the hope of immortality.

The allegro of the mazurka¹ calls the young Slavic nations to fight and wooing. The dancing couples continually separate and unite in a steady rotation. The male woos and pursues, the female coyly escapes and teasingly returns. In the adagio of the Vienna waltz, the couples in a constant embrace, have settled down to matrimonial every-day life, no more fight, no more wooing.

Music is general. We do not experience the special emotions of elation or depression the artist has felt while erecting the tonal structure, but our own emotions. We find solace and consolation within ourselves, while listening to music. It affects us in the same way as the true drama, not the modern drama² but the poetical drama.

which, according to Aristotle, has to express the emotions of fear and pity. It is not the fear for the hero and the pity with him which renders the drama so valuable as a school of life, but the fear for and pity with ourselves which we experience. The poetic drama expresses the inner meaning of sin and atonement, it portrays the human tragedy, and awakens fear and pity. When we see a king Lear carried away by cheap flattery and throwing precaution and reason to the winds, his failings awaken in us fear lest, carried away by the same kind of adulation, we too many commit similar errors. When we see him atone for his failings by really losing his reason, when we see him pay the penalty for his sin with the same organ he sinned with, we feel pity for him; in reality, not for him but for ourselves, because we ourselves have the same failings, we are also amenable to flattery. The hero of the drama can never be a real criminal. Edmund does not instil fear in us. He is a real criminal, we are not. We know we could never commit such crimes. Neither do we have pity with him. He is punished in proportion to his crime. He

ing to do with religion as such. They do not expound the meaning of life, the eternity and divinity of the human soul. If our lives are ephemeral, like that of the fly, what is the use of social service, to which purpose should we be moral or charitable? Why prolong the life of the poor, of the cripple, of the diseased, of the afflicted, of the unfortunate, if their lives are only passing shadows, leaving no more impression on the cosmos than the life of the cat? Why not act as the Spartans did, kill off all these helpless creatures and get rid of them? You have to show the value of human life, even of the life of the cripple, by demonstrating its relation to the throbbing life of the universe, as a reason for its preservation. This constitutes the essence of religion. Without religion (not creed, with which it is often confounded) as a basis, sociology, political economy, or even morality have no legs to stand upon. Still the modern church has become a social service hall rather than a house where religion is taught, just as poetry has been banished from the theatre.

¹The dance is the visible rhythm in space, music is the audible rhythm in time.

²This remark must not be taken as derogatory to the modern problem show, which as a piece of prose, shown on the scene, undertaking to teach a lesson in morality, sociology, or economics, has an immense social value. But invaluable as these lessons may be, they are not dressed in poetical garb nor do they represent poetry. Just as the modern church rarely represents true religion. The paramount and only mission of religion is the endowment of man with the consciousness of eternity. Still a glance at the sermons in our churches advertised in the Saturday papers will show that nine themes out of ten deal with sociological, economical, or moral, and even of political questions, which, useful as they are, have nothing

has simulated love and he dies by love's intrigue.

When we see Hamlet hesitating, vacillating, wavering, we fear for him¹ and for us, because we too cannot always make the right decision at the right moment and often thus invite disaster upon us. When Hamlet dies we have pity with him or rather with us. Still we leave the scene of the tragedy satisfied. We find strict poetic justice in this world. We atone all our transgressions. Sometimes innocence suffers together with the guilty. The innocent Antigone leads her blind father, she also a beggar. This suffering of the innocent is the inscrutable mystery of the world's directing spirit. Divine justice differs from human justice ("Love," page 275, footnote). On the tree of humanity, one blossom crowds the other. Some must wither innocently, fall to the ground before ma-

¹ The pansexualist who sees sex everywhere finds an *Œdipus* complex in Hamlet. If so, where is Hamlet's tragic guilt? *Œdipus* himself did not harbor the complex called by his name. He did not know his parents. His tragic guilt is not the murder of his father or the marriage of his mother. This he did in perfect ignorance and innocence. The murder of a stranger was no crime at that period, but patricide and incest were the most monstrous crimes. Hence, if he knew what he was doing he would be a perfect criminal and not fit as a hero of a drama. *Œdipus'* tragic guilt was lack of circumspection and precaution. The oracle was silent about his parents. It only told him that he will kill his father and marry his mother. His duty was to return to the royal couple in Corinth and take care not to kill the king or any other middle-aged man and not to marry the queen or any other woman older than he was, who might be his mother. Instead of taking this precaution he sets out wandering blindly thru the wide world, where he ignorantly might commit the very deeds he wishes to avoid. At his first encounter he kills a middle-aged man, who might be his father. At the first opportunity he marries a woman old enough to be his mother. For this blindness he is punished by becoming a poor, blind, wandering beggar. Here is a tragic guilt and its proportional atonement. *Œdipus* thus inspires us with fear, because we too not seldom commit foolish acts in our blindness. *Œdipus* arouses our pity because he is not a criminal. He is a human being, as we are, and the same thing may happen to us. Hence, we really pity ourselves.

turity, and be put out of the way to make room for the others to develop better. Just as in war, men are sacrificed innocently for the benefit of the survivors.

The drama is thus an image of human life. In the drama we do not fear for nor have we pity with the hero, but these two emotions concern ourselves, they are only provoked by the poet's creation. The same is the case with music. An emotionally toned tonal creation arouses our own emotions, with the only difference that in the drama the stirred-up emotions are determined, while in music the emotions are general. The drama or any other poetic effusion speaks a direct language to the intellect, music appeals to the emotions. It calls man, in a general way, to action or suffers him to recoil to a state of otiosity, indolence, and inactivity. The air of the Marseillaise calls man to action, to any action. The words of the anthem give the call a certain direction, it is a call to arms against kings, kaisers, czars, plutocrats, or any other kind of oppression. By the way of the association of ideas, the mere air challenges now-a-days our enemies to fight.²

The air of "Nearer My God to Thee" reminds us of the common destiny of all things created. Subconsciously we identify ourselves with all the creatures who have passed the path of life before us, and we become one of them.³ We stand before the riddle of the transitory existence of all things created. The melancholic air also recalls to

² The fight for liberty is a constant fight. All the great republics in history succumbed to the insidious usurpation of autocratic power by their chief magistrates. They died because their citizens became too indolent to fight for their liberties and preferred a life of ease and of the gratification of the senses to a life of action and combat.

³ "Hae omnes creaturae in totum ego sum, et praeter me aliud ens non est," says the Upanishad, in the Veda.

"Are not the mountains, waves, and skies a part of me and my soul, as I of them?" asks Byron.

our memory our own moments of sorrow when those nearest to us were nearer to God. We see ourselves at the grave of our father, at the coffin of our child, and at the funeral pyre of our dearest friend, and the melody reminds us that our clock will also run down and stop some day.

Music appeals to our emotions. It does not itself express any specific emotions, except the two elemental emotions, joy or elation, and fear or depression. Through these two elemental emotions it speaks to our related sentiments. The ones produced by the lower vibration notes give to music a solemn, majestic, mournful effect, while tones of high vibration give the effect of gaiety and joyousness. Slow music expresses apathy, inanity, distress; rapid rhythm arouses the feeling of serenity, delight, activity, and of triumph. Music does not imitate as the representative arts, the claim of the Wagnerian to the contrary notwithstanding. Only some natural sounds may music imitate, such as the rolling thunder, suggestive of wrathful warning of menace; the noise of the wind, recalling human lamentation; the breaking wave, expressing the elemental force of human restlessness; the purl of the spring or brook, suggestive of enduring repose and attained peace.

Music thus awakens in us happiness and sadness, pain and pleasure, horror and jubilation, joy and equanimity, action and apathy, triumph and defeat—emotions we have already experienced in our own life. But no matter what melody resounds a melancholy or a joyous air, we always experience some satisfaction, even when we shed tears through esthetic emotion. We find happiness in general gladness and we find consolation in general sadness.

"Solamen miseris socios habuisse malorum."

Music affects all men, the ignorant as well as the discerning, more than any other art, because the perception of music does not rely upon the influence of cognition or the knowledge of causality or reason. In the contemplation of the representative arts we unconsciously go back to the causative force, or to the artist behind his art, while music makes an esthetic impression by its very effect.

Music speaks a general language. Its distinctness excels by far that of the visual world. Music depicts the significant relationship of the innermost being of the world with our own being. Music relates the secret history of mankind. It is a copy of man's deeds. It portrays or rather symbolizes every human desire and aspiration, every emotion of the human soul. Man aspires and is satisfied, aspires again, and is constantly looking for new satisfactions evermore. His happiness has only a short endurance, during the short interval between the desire and its satisfaction. The failure in the attainment of satisfaction causes suffering, the absence of a new desire brings empty languor, meaningless monotony, listless indolence, a life of inanity and death.

The melody symbolizes these traits of the human soul by its constant deviations, departures, and desertions from the key-note. In the melody there is a constant aberration on a thousand different paths, still there is always a returning to the tonic, to the fundamental tone, a perfect picture of the diversity of man's desires and aspirations. When the note gradually fades away, when the accord not rarely seems to have died away for all times, there is a sudden resurrection. A new note resounds and lends new life to the melody, a perfect symbol of our hopes in a something beyond.

171 West 126th Street.

PROTECTIVE MEDICAL MEASURES AGAINST VENEREAL DISEASES.

BY

JOHN F. MARTIN, M. D.,

Supervisor, Protective Social Measures, U. S.
Interdepartmental Social Hygiene Board.
(Arizona State Board of Health)

Douglas, Arizona.

The great war revealed that the incidence of venereal diseases among the people of the contending nations was astounding. And perhaps the greatest benefit resulting from the period of wanton destruction was the knowledge gained in treating venereal diseases as a national problem, by the different nations. The invisible foe has at last met an opposition that will continue until venereal diseases are controlled the same as other contagious diseases; then the procedure will be one of routine, applying the instruments of progress as they are discovered.

The examination of recruits for the United States Army gave startling information, in that 5.6 per cent. of the young men coming from civil life, among the second million of the draft, were found to be infected with venereal disease. And these young men represented the pick of American manhood! And in order to obtain armies fit to fight, it was found, by the different nations, that definite plans had to be devised and executed in order to combat and control venereal disease infection.

The United States was the first nation to present a definite, well-organized campaign against the spread of venereal diseases, among both troops and civilians. The measures taken were often heroic, disturbing the social conscience in many instances on account of having to correct certain conditions contributing to venereal disease infection. The country was at war, however,

and the pleadings of the ultra-religiously-minded people were answered by being told to get busy and cooperate in the work to protect the boys in the army and navy against the sins of the community. And they did.

Facts and figures since compiled have not only corroborated what has been general medical knowledge, that venereal diseases were markedly prevalent among civilized people, but far more so than supposed. And the fact that the war was over, that the boys had returned home to resume civil pursuits, naturally caused a cessation of war-time activities along many lines of former welfare activity. The war-time activities in relation to the control and suppression of venereal disease, however, were continued by the U. S. Public Health Service, the U. S. Interdepartmental Social Hygiene Board, and the different state departments of health, working under a unified plan of cooperation and coordination. The much rehabilitative and constructive work has resulted is evident to all, but the work must go on, with redoubled energy, to master the great unseen enemy—the twin demons, gonococcus and spirochæte.

We are aware that any general plan to effectively control the incidence of venereal diseases must embrace protective medical measures, protective social measures, informational and educational programs, and scientific research. Protective medical measures concern the prevention and treatment of venereal diseases, both from a medical viewpoint and in a correlative way with all other measures contributing to medical lines of attack.

The diseases embraced in The Great Venereal Disease Plague are syphilis, gonorrhea, chancroid, and gangrenous balanitis. The twin diseases, syphilis and gonorrhea

are the great offenders, the problems we have to contend with and conquer. As a general consideration of the four diseases is not intended, syphilis will be discussed, to serve as a guide, and to show why the medical profession should consider all the above diseases as the greatest problem confronting physicians today, and the responsibilities placed upon the medical profession are more exacting than applies to any other cooperating functionary, in that we have the means at hand to effectively treat these diseases and can call upon others to remove the causes.

A disease so manifest and widespread as to affect possibly ten per cent. of the population of the United States needs no introduction to the medical profession, but what is needed is a full realization of the great responsibility placed upon every physician who treats a case of venereal disease to see that the treatment is effectively done, and that the case is handled according to the Public Health Laws of the State of Arizona, providing for the quarantine and treatment of venereal diseases. These regulations are specific, detailing certain duties and responsibilities to both local health officers and practicing physicians, also upon legal functionaries and the citizens of the state.

There was recently held in Washington, D. C., the first session of The Venereal Disease Institute, under the direction of the United States Public Health Service, and was preceded by The All-America Conference, delegates coming from both North and South America, and the island possessions. The subject of venereal diseases was considered in such a broad manner that not only venereal diseases, *per se*, were discussed, but a general survey of contributing causes of sex delinquency was

presented by means of didactic lectures and discussions on biologic, sociologic, psychologic, eugenical, physiologic, pathologic and hereditary factors. It is apparent that a general interest has been created in the venereal disease problem. The fact remains still more emphasized that whatever the contributing causes of venereal diseases may be, the medical profession is every day presented with the results of sex transgression, and by far the most prevalent sequelae are venereal diseases. We must, as physicians, bend to the oar and pull for the shore, that we land upon a firm soil of common understanding.

A presentation of what may be accomplished by utilizing means and measures may be considered. The prevention of venereal disease infection should be the prime aim of a protective medical measures program, and this may be brought about thru the application of the laws of moral and personal hygiene, prophylaxis, scientific research and correlative protective social measures.

Another very important vehicle of information, still to be discovered, yet we all hope for it, is conferred immunity, active or passive. It is not known at this time that immunity can be conferred, but future experimentation may find a way to bring about this hoped for discovery. This will come thru the channels of scientific research, either thru experimenting with vaccine or sera, or other media. Much work along this line has not been productive of such hoped for results. Consider what an incalculable benefit would come from such a discovery, either as a means to confer immunity, or to promote a more definite and rapid cure of these diseases.

Personal hygiene and constant moral introspection and habit are the most effective

preventatives one can use against venereal disease infection, invoking the religious deities for encouragement and guidance. Live well and be well is axiomatic.

Medical prophylaxis, aside from the application of the rules of personal hygiene, concerns medical measures by which the sex offender may be given such treatment that venereal disease infection may be forestalled or obviated thru the application of medicament, usually in the form of chemical solutions and ointments. This procedure, as is generally known among medical practitioners, is not a definite, sure barrier that will prevent infection, and invariably protect the sinner from receiving an unclean receipt for his misconduct, but we do know that when proper chemicals are used in trained hands, the application of prophylaxis within an hour of the time of exposure, venereal disease infection is markedly prevented. The writer believes that the application of a 33 per cent. calomel inunction to the genitalia before exposure is an added safeguard, in conjunction with post-intercourse prophylaxis.

From a moral viewpoint, there is no reason for venereal disease prophylaxis to exist, but from a medical consideration there is a distinct and valuable place for prophylactic treatment to prevent infection. There perhaps is no valid reason why prophylactic stations should be distributed in convenient locations in the large cities, but means to obtain prophylactic treatment should be provided by members of the medical profession specializing in venereal diseases, by certain hospitals and dispensaries treating these diseases, and a definite provision for army and navy personnel. The fact that venereal disease infection may be lessened thru prophylaxis and as a result increase promiscuous sexual intercourse is

to be proven. The inclination of an individual to sex transgress is not usually held in check thru fear of infection. Whoever heard of a medical student refraining from sexual intercourse when so inclined, knowing, as he should, all about venereal disease infection.

The clinical treatment of venereal diseases is, at the present time, in a much better regulated condition than at any time in the history of medicine, and this has been largely due to the United States Public Health Service, acting as a unifying factor in cooperating and coordinating the work of treating these diseases by the different state departments of health, and in aiding the states to establish clinics for the treatment of venereal diseases by furnishing funds and personnel, that the indigent be treated effectively along modern, scientific lines.

A venereal disease clinic must necessarily be under the direction of a trained physician, skilled in treating venereal diseases and, particularly in large clinics, have a staff of physicians equally skilled to assist. The clinic should furnish gratuitous opportunities for outside physicians to gain experience thru being appointed assistant physicians on the staff. One or more well-trained nurses are needed to handle operative details, prepare the patient, and attend to preparation of arsphenamine solution, also assist in the administration of same to the patient.

Some clinics, the smaller ones, use their nurse as a half-time social service worker to trace out sources of infection, and control lapsing cases by forcing them to return to the clinic for treatment. The nurse is also used, in the smaller clinics, to register and book the patients for treatment. In large clinics, however, the duties of the

nurse are clear, and other details are left to clerks and social service workers.

A large clinic requires the services of a registering clerk, who assigns patient for treatment, by name or number; one or more coordinating clerks, whose duty consists in seeing that patients are treated in consecutive order, attend to laboratory reports, summarizing treatment on clinical records, assist the supervising clerk, and attend to presenting details. A supervising clerk, usually a trained social service worker, who books the patient for treatment, receives the money for same, attends to correspondence, sees that patients report for treatment, keeps in touch with health officials, charities, psychopathic examinations, probation cases, and practically everything pertaining to the welfare and disposition of the individual case. There should be no broken cog in the wheel that moves the clinic.

Following up of familial infections, rehabilitating women and girls amenable to vocational occupation, or institutional care; placing under legal restraint both men and women morally bankrupt and a menace to the community; report programs of prostitution; and, above all, show a degree of human interest, so necessary for the encouragement of the person suffering from syphilis, particularly the old, persistently positive Wassermann case, whose horizon usually presents a despondent, melancholy future. The treatment of a case of syphilis is a scientific, sociologic problem. Nothing must be left undone to render a possible cure and protect the community to the fullest degree. These duties belong to the social service worker.

The proper training of a physician who intends treating venereal disease will go far toward solving the problem of ade-

quate, efficient treatment. A physician ought not to attempt to generally treat syphilis unless he has received special training. A physician who gives a syphilitic patient inadequate treatment because of the fact that the essentials of treatment are not thoroly understood, deprives his patient of an opportunity to have his disease cured or arrested and, in a sense, commits malpractice, for in no other disease is the treatment so exacting as in syphilis.

One injection of arsphenamine will not cure syphilis! It takes a long, well-administered course of treatment of two or more years to be reasonably certain of a clinical cure, even in the most favorable early cases. Some cases probably are cured in a shorter time, but there is no way in finding out. Cocksure cures often inevitably result in degenerative sequelæ later on. Medical practitioners ought to be well enough schooled in the essential plan of treatment to omit details, but an illustration of the usual scheme of treatment given for a most favorable and responsive case may be mentioned.

Granted that the patient is both mentally and physically compensated, possessing no contraindications for arsphenamine treatment, the usual plan of treatment is as follows: Sometimes a preliminary injection of an insoluble or soluble mercurial preparation is given, to kill off the spirochætes and render less likely reactions. A course of from six to ten intravenous injections of arsphenamine is given, the dosage being gradually increased, usually one week a part, but under certain conditions they may be given twice a week. This course is followed by a Wassermann test, and a series of weekly intramuscular injections of mercury salicylate, increasing from half a grain to one and one-half grains per injection. A

ten per cent. suspension of mercury salicylate in sterile albolene is the preparation of wide choice. Other mercurial salts are also in favor. A total of 15 grains of mercury salicylate is given, usually taking ten to fifteen weeks. Another Wassermann is taken, and a month's rest from treatment is allowed.

The second course is a repetition of the first, a Wassermann test is taken before beginning, and upon completing the course. A month's vacation is allowed if the Wassermann is positive, and a two months' vacation is sometimes allowed if the Wassermann has been twice negative.

A third course is given, similar in all respects to the second. Then a three months' vacation is allowed.

A fourth course of weekly intramuscular injections of mercury is given as a clincher, providing the response has been favorable and three consecutive Wassermans have been negative. A Wassermann is taken after this course, and the patient told to return for an examination in six months. A spinal puncture is advised at the end of the third course to determine whether the cerebrospinal tissues have been involved.

Venereal disease clinics can conveniently be established in large towns, cities and counties, where the public interest can be aroused to the point of providing ways and means. Rural communities, however, often sadly lack facilities for the proper treating of the indigent venereal disease cases, due to the fact that advantages are not at hand for rural physicians to acquire the necessary technical skill and knowledge required for the proper treatment of these diseases, particularly syphilis. It is not the fault of the physician that this condition exists, and there should be some provision made whereby clinical advantages furnishing

gratuitous training could be provided, such as in county hospitals.

Many states have an arrangement with certain physicians residing in cities and towns whereby indigent venereal disease patients are treated for a fee ranging from nothing to five dollars per intravenous injection of arsphenamine, and an understanding regarding other related treatment. The bills are rendered usually to the county, or to the state department of health, and are paid monthly, the arsphenamine and mercury being obtained from the officials having charge of the Bureau of Venereal Diseases, as a rule. Such a humanitarian arrangement is commendatory. No physician should neglect to refer a venereal disease patient to where he or she may receive charitable treatment, when the person is not able to pay for same. It is the distinct duty of every physician to see that every venereal disease patient is carried along in treatment until the disease is either cured or arrested.

The reporting of all venereal disease cases should be rigidly adhered to, that is the four offenders: syphilis, gonorrhea, chancroid and balanitis. Syphilis should be reported by name or number, preferably by name, during the infectious, open lesion stage, and during the first two years of the disease. During the late, non-infectious stage, syphilis should be reported by number, for informational and statistical reasons.

A great deal of antagonism arises between physicians and health officials regarding the reporting of venereal diseases. It suffices to say that any physician failing to live up to the requirements of the law in this respect only helps to defeat the intention of both State and Nation to reduce these diseases to the irreducible minimum.

Some physicians are actuated thru indifference; others refuse to see the value of reporting venereal diseases and object to being enlightened; and others realize the value of the procedure, but refuse to obey the law.

In conjunction with having these diseases reported, the State departments of health should see that every physician reporting a case of venereal diseases be sent a clinical report blank, requesting the diagnosis and the treatment given. And in answer to every Wassermann report there should be a similar report blank filled out, detailing the amount of treatment given. This information should be filed away for reference. Where such an arrangement is carried out the maximum of results is attained.

Each patient should receive the standard instruction blank, informing him of the infectious nature of his disease and other pertinent data, that he may be armed, and the public protected. It has been thru the directing function of the United States Public Health Service that the handling of venereal disease problems has been standardized, and the work more or less uniformly carried on by the different States. One for all and all for one, has been the slogan of action.

In treating the individual case of syphilis one has to keep constantly in mind that the patient is an entity, both clinically and physically; subject to idiosyncrasies and interpretations. A careful preliminary examination of the patient is necessary to determine the physical condition and discover possible contraindications for arsphenamine or mercurial treatment. And a preliminary preparation of the patient is required before giving intravenous arsphenamine treatment. The preparation of the

arsphenamine solution and the technic of operation is not here concerned, but it is decidedly important that both be properly performed.

The fact must be constantly kept in mind that the patient's health must be carefully overlooked, and such measures as taking the blood pressure and examining the urine before each treatment be observed, to guard against untoward accidents, as irritative nephritis, dermatitis, gastro-intestinal upsets and jaundice. Also keep constantly on the alert for signs of intolerance, intoxication and other disturbances, organic or functional, that disasters of treatment be avoided.

It is needless to state that efficient laboratory facilities are absolutely essential to take care of the serologic and bacteriopathologic requirements. The laboratory is a most important functionary in the protective medical measures program dealing with venereal diseases, and should be under the direction of trained, skilled workers.

In reference to public charges, it is important that the law be observed in all matters pertaining to sex delinquency and venereal disease, where laws or regulations are at hand for action and restraint. Inmates of State institutions should receive proper venereal disease treatment, when found to be infected, that the individual so infected be either cured or rendered non-infectious, that the community be protected.

It is very much to the value of industries to require that employees who suffer from venereal disease infection be adequately treated, without financial handicap, for it has been shown that the incapacity of the industrial worker so affected is an economic burden to the employer. Many large industrial establishments have pro-

vided active medical facilities for the treatment of these cases—the employer often paying the cost of treatment or the employee is assessed, or requested to pay the bill.

It is incumbent upon the medical profession that the protective medical measures program in dealing with venereal diseases be made as active as possible, that physicians all take a common interest in the confronting problems concerned in the treatment and conquering of the Great Venereal Disease Plague. It is to be hoped that our National Congress will take measures to not only continue the work done, and made possible thru Congressional appropriations, but will make possible a more intensive campaign against these diseases, so vital to the Public Health and National Wealth, by increasing future appropriations, as the needs require.

THE NECESSITY FOR VITAMINES IN THE DIETARY AND THE ROLE THEY ENACT IN CONSTRUCTIVE METABOLISM AS VERIFIED BY BIOLOGIC EXPERIMENT.¹

BY

WILLIAM E. FITCH, M. D.,

Late Major, Medical Corps, U. S. A.; Author
of "Dietotherapy"; New York City.

It is hardly conceivable that substances which play such an important rôle in nutrition could have escaped attention until the beginning of the present decade. Nevertheless, the existence and physiologic functions of "accessory food substances," now

termed *vitamines*, are relatively new to the science of nutrition, and the reports of research workers, backed up by biologic experimentation, compel the belief in their reality and sitologic importance.

The disproportion between the apparent importance of their functions and the amount required for normal sustenance is surprising because their presence in the normal dietary is far too small to contribute any appreciable energy to body metabolism, but even in such infinitesimal amounts they are absolutely necessary for growth, development and life. Further research may prove them to be structural components of living tissues, of which we know they are essential, even tho quantitatively unimportant; on the other hand (which is equally possible), they may be found to have a catalytic action in the normal process of metabolism. This last deduction seems quite certain because they function in such small amounts that they cannot be classed in a nutritive category with the better known ternary components of the dietary; at present, their actual nature is little understood, tho much information is available as to their distribution, and momentous importance in normal nutrition, as well as the undisputable evidence now at hand, that there are at least three, and possibly four *vitamines*, each of which has a special function in the regulation of constructive metabolism.

Research workers have demonstrated beyond question that if these "accessory food substances" are removed from natural foods, such a dietary being deficient in *vitamines* will wholly fail to support nutrition, and be quickly followed by symptoms of deficiency diseases, which condition can be prevented and the animal restored to health by adding an equal quantity of

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vitamine from some other source. The nutritional phenomena which have been observed in connection with vitamins in the process of nutrition clearly prove that their functions are quite distinct and different from the energy-producing foods. There is evidence that the vitamins are synthesized in the tissues of plants from whence they pass into the tissues of herbivorous animals and thereby become available for carnivora. While their distribution in either the vegetable or animal kingdom may be partial and irregular, yet it is safe to assert that an individual whose dietary is varied—and has not been subjected to artificial or accidental separation into parts, and where no destructive influence (overheating) has been applied to it—will always ingest sufficient vitamins for normal growth, development and life.

In the study of any problem, the importance of contributory factors is often overlooked until the effects of their removal are realized. The incident leading to the discovery of vitamins and their functions came to light when commercial adventure or other human interests led to the preparation and consumption of foods in which the natural food products had been fractioned (as in the newer methods of milling rice) for the sake of appearance; or overheated (for example) in canning or preserving processes. It is a fact that the most striking evidence for evil effects of the artificial tampering, commercially, with natural foods came from the rice-eating districts of the far East when they were invaded by milling machinery from the West. This process of milling changed the wholesome brown rice of nature to a highly polished decorticated grain, wholly devoid of Nature's vital element—the vitamins.

More than two decades ago, Eijkman observed that beriberi developed where the dietary was composed largely of decorticated rice, suggesting to him that the cortical substance of the rice grain was required to neutralize the otherwise deleterious consequences of a ration overrich in starch. If he had asserted that the cortical substance was of direct use to the body and essential for normal nutrition he would have been ten years ahead of his co-workers in this field.

Laboratory research and experimentation are responsible for our present knowledge of the importance of vitamins in the dietary. Practically all the classical experiments have been made upon diets composed of natural foods, the fat, carbohydrate, and protein content being determined by analysis. After these ternary food constituents had been thoroly "purified" and animals fed upon "synthetic dietaries" made up of such "purified foods," it was possible to conclude that the well-known ternary food elements, alone, were not capable of maintaining life.

The growth and development of a young animal are governed by two factors: the growth impulse which is inborn, represents the power to grow, possessed by individuals of the particular species, and may be termed the (a) *internal factor*; and the second factor comprising the summation of all the external conditions which influence growth—the most important of which is the food supply—may conveniently be designated as the (b) *external factor*. Neither of these fundamental factors can function independently of the other. The growth impulse foreordained by evolutionary influences, or ancestral inheritance represents the power to grow inherent in the fertilized

ovum, notwithstanding this powerful hereditary influence, is powerless to promote corporeal growth unless aided by the cooperation of the external factor—food.

Moreover, this external factor, which resolves itself into the food supply, cannot promote growth beyond the limits which are foreordained and predetermined by the growth impulse or internal factor. Therefore, we are able to grasp the fundamental importance of a complete understanding of the food requirements of the animal body during the period of growth. Before our knowledge of the importance of the accessory food factors, it was customary to estimate the nutritive requirements of the animal organism in terms of fat, protein, carbohydrates and mineral salts. As a result of this narrow conception egregious errors were made which have been corrected by patient research on animal nutrition, and which has advanced beyond the stage where primary importance was attached to the results yielded by meticulous laboratory investigation of nitrogen energy and mineral exchanges. There is no question but much valuable knowledge has been deducted from such results, yet at the same time much that is confusing, if not misleading and inaccurate, has undoubtedly followed from the attempt to assign to every food stuff a nutritive value expressed in terms of digestible protein, fat, carbohydrate and salts. It is very necessary to review the methods used in this evolution to appreciate the way these errors have arisen. For example, protein is still in many instances computed from determinations of total nitrogen, without giving the slightest attention to the character of the nitrogen-containing substances actually present in the food stuffs.

Many attempts have been made to justify

the assumption that proteins, fats, carbohydrates and inorganic salts were all that was necessary for the nutrition of the body, but so far, no successful experiment is on record to show a normal development in an animal thruout its life cycle on a diet composed of these elements in a purified condition.

It is known that mice can live for several months and remain physically fit on a diet of milk, but will die within thirty days if fed on a ration composed of the essential ingredients of milk, *viz.*, caseinogen, milk fat, milk sugar, and the ash of milk. It is also known that mice will live satisfactorily for several months on a diet of wheat bread made with milk, but when fed upon the same ration after being extracted with alcohol, they will live only for one month. That this extraction lowers the nutritive value of the food stuff by removing some essential component has been proven by restoring the extract to the extracted food, when it again becomes wholly sufficient for the normal nutrition of mice.

Experiments have been made with the view of ascertaining the exact nature of the essential factor removed from foods by the extraction process. The addition of the ash of the extract of certain natural fats in pure condition did not overcome the deficiency. It follows, therefore, that other substances are contained in normal milk which are indispensable for nutrition besides caseinogen, fat, lactose and salts. Many suggestions have been advanced to explain these repeated failures, among which were "monotony in the dietary" and "the absence of flavoring agents" in artificial diets, but even the addition of flavoring agents to increase the palatability of the ration, the experimental animals failed to flourish and eventually died, but

when milk and egg yolk were added the food was found to support nutrition, which led to the assumption of the existence of an unidentified indispensable "accessory food" substance akin to the lipoids. Attempts have been made to identify this "accessory food" substance with cholesterol, lecithin, and kephalin, but all this class of substance failed to restore the nutritive value of extracted food stuffs. It has been suggested that unknown substances, indispensable for life, go into solution with the lipoids, but it appears more likely that the lipoids may become possible carriers of these substances to the living body tissues.

A decade ago the dietitian was mainly interested in proteids, fats and carbohydrates, and incidentally in *calories*. Then in the recent past, tho somewhat belated, the value of mineral constituents of the dietary was recognized. Still more slowly came the information that even tho the ration were composed of the requisite proportions of protein, fat, carbohydrates and mineral constituents, an "accessory" food factor was lacking to supply a normal sustenance for the human being, and it was not until just a few years ago that, in the course of laboratory research and investigation into the cause of beriberi, was it realized that the disease appeared more frequently in localities where polished rice was the main staple of the ration. This incident led to the assumption that there might be some element in the polishings from the rice grain which prevented or held in check the development of the disease. This was the opinion of Casimir Funk, a pioneer worker in this field, who eight years ago coined the term "vitamines" as the name for this "accessory food" factor.

The paucity of precise knowledge concerning the exact chemical structure of the vitamins explains the rather awkward nomenclature which is used in discussing them. Biochemists, with the present lights before them, name them in accordance with their solubilities.

It is known today that there are at least three of these vitamins (and possibly four), each serving its own peculiar function in the intricate process of nutrition. One of these vitamins is soluble in fat (Fat Soluble A). The other two are soluble in water (Water Soluble B and Water Soluble C), and all three are rather widely distributed in the commoner food stuffs.

It is the consensus of opinion of the leading biochemists of the world that the Water Soluble B and C vitamins are complex structures resembling the purins and pyrimidins, and at the same time their behavior toward chemical substances suggests a similarity to alkaloids. The Fat Soluble A vitamin, unlike the Water Soluble group, is closely related to lipoids. A singular peculiarity of this vitamin (Fat Soluble A) is the fact that the fat solvents which are so effective in readily dissolving it out of animal tissues are powerless in liberating it from the chemical and physical shackles which imprison it in vegetable tissues. The exact physiologic action of vitamins on the tissues is a question which is as yet not clearly explained. They may themselves be assimilated and become part of the body tissues. The quantity of vitamins necessary in the ordinary diet is infinitesimal, but the effects of their sudden withdrawal from the diet produce stupendous, untoward results. The present understanding of their action is most likely a catalytic change which would indicate that

while they do not actually enter into the chemical reactions of metabolism, their presence is absolutely essential in a regulating and coordinating capacity. The *vitamines* are "accessory food" substances of undetermined structure found in the germ and outer parts—pericarp—of matured cereals and in all growing grains, vegetables and fruits, in the flesh of animals, birds and fishes, as well as in the juices of the flesh of animals, and must now be considered as necessary factors for the normal metabolism of nutrients, rendering them available for assimilation by the body tissues.

We will now consider the source of vitamins—Fat Soluble A, Water Soluble B, and Water Soluble C—and point out the deficiency diseases produced on a vitamin-free dietary.

FAT SOLUBLE A.

The Fat Soluble A or anti-rachitic factor is necessary in the dietary to promote growth and prevent rickets in the young and is also necessary to maintain health in adults. The main source of this necessary accessory food factor is certain fats of animal origin and from green, succulent vegetables. It is found in fairly liberal quantities in butter, cream, codliver oil, fish, whale and herring oil; also in lean meat (beef and mutton), liver, kidneys, heart, brain, and sweetbreads, in whole cows' milk, cheese, eggs, whole wheat flour, beans, cabbage, turnips, lettuce, spinach, potatoes and nuts.

VITAMINE.

Fat Soluble A. Anti-Rachitic Factor.

A ration deficient in this factor causes:

Diminished growth; malnutrition; lessened vitality; susceptibility to disease;

rickets in the young; retards development of the teeth and predisposition to caries; retardation of development of organs and tissues; xerophthalmia, leading to total blindness; death.

A ration containing normal amounts of this factor insures:

Normal growth; normal development; normal vitality; resistance to disease; insures against rachitic syndrome; efficient functioning and normal development of organs and tissues; recovery from eye lesions due to lowered resistance from a dietary lacking fat soluble vitamins; vitamins absolutely necessary for growth, development and life.

WATER SOLUBLE B.

The Water Soluble B anti-neuritic or anti-beriberi factor is necessary in the dietary to promote growth and development in the young and a dietary lacking in this element will lead to the development of a deficiency disease, beriberi. The principal sources of this accessory food factor are in the following foods, *viz.*, lean meats, very slight (beef or mutton), liver, kidneys, brains, heart, sweetbreads; in milk, raw, skimmed, dried; in fish roe, eggs dried and fresh; in whole cereal grains, germ and bran layers, dried peas, lentils and beans, cabbage raw and dried, lettuce, carrots, spinach, potatoes, bananas, nuts and plentifully in yeast and yeast extracts. Also found in honey.

VITAMINE.

Water Soluble B Anti-Neuritic or Anti-Beriberi Factor.

A ration containing an insufficient quantity or entirely deficient in this factor causes:

Diminished growth; malnutrition; poor vitality; sterility; susceptibility to disease; deficiency diseases—polyneuritis and beri-

beri; (a deficiency disease); paralysis; death.

A ration containing normal or increased amounts of this factor insures:

Rapid growth; normal development, normal vitality; virility; resistance to disease; against deficiency diseases; recovery from beriberi; vitamins necessary for normal growth, development and life.

WATER SOLUBLE C.

The Water Soluble C or Anti-Scorbutic factor is necessary in the dietary to prevent scurvy and is found in fresh vegetables and to a slight extent in fresh animal tissues. Its richest sources are from such vegetables as raw cabbage, swedes, turnips, lettuce and water cress, fresh beans, and from such fruits as lemons, oranges, raspberries, tomatoes, etc. Meat and milk possess a definite but low anti-scorbutic value. It is found sparingly in apples, cooked potatoes, dried carrots and cooked cabbage.

VITAMINE.

Water Soluble C. Anti-Scorbutic Factor.

A ration containing an insufficient quantity or entirely deficient in this factor causes:

Growth not influenced; lessened vitality; lessened weight; the onset of scurvy in animals after 20 days on a dietary lacking the anti-scorbutic elements; tenderness and swelling of joints; the teeth to loosen and hemorrhages in joints and intestinal tract; swelling of ribs and loosening of bone with cartilage and spontaneous fracture; death.

A ration containing normal quantities of this factor insures:

Normal growth; greater vitality; increased weight; against the development of scurvy; against tenderness and swelling of joints; normal teeth and no hemorrhages in

joints or alimentary tract; no swelling or disturbance of osseous structures; vitamins necessary for growth, development and life.

A BIOLOGIC STUDY WITH PIGEONS, FIRST, ON A DIETARY OF POLISHED RICE, AND SECOND, ON A DIETARY OF HIGH NUTRITIVE CHARACTER.

The feeding experiments about to be described were conducted with pigeons. The birds in coops 1 and 2 were high-bred registered White King pigeons. The birds in coops 3 and 4 were ordinary common pigeons. The experiment was conducted in collaboration with Casimir Funk, the discoverer of vitamins, and was begun on December 4, 1920, with the following weights, and each bird was given two ounces of polished rice twice daily and pure water *ad libitum*.

FEEDING EXPERIMENTS WITH PIGEONS ON A POLISHED RICE DIET.

Coop No. 1	Dec. 4	Dec. 11	Dec. 18
Bird No. 10.....	16 $\frac{3}{4}$	16 $\frac{3}{4}$	14
Bird No. 20.....	14	15 $\frac{1}{8}$	13
Coop No. 2			
Bird No. 10.....	19 $\frac{1}{2}$	20	15 $\frac{3}{4}$
Bird No. 20.....	16 $\frac{3}{4}$	17	15
Coop No. 3			
White Bird	10 $\frac{1}{2}$	10	8 $\frac{1}{2}$
Blue Bird	14	14 $\frac{1}{2}$	12 $\frac{1}{2}$
Coop No. 4			
Blue Bird	18 $\frac{3}{4}$	17 $\frac{1}{2}$	15
Grey Bird	19 $\frac{1}{2}$	17	15

On December 18, all of the birds were in a droopy condition with a slight tendency to diarrhea and all losing weight. Both birds in coop 1 were unsteady on their legs—spastic gait—with feathers ruffed; the floors of all coops were covered with rice, but all the birds had refused to eat the rice. Both Blue and White pigeons in coop 3 showed lessened activity, feathers ruffed and marked spastic movements of the Blue pigeon. Both the Blue and Grey pigeons in coop 4 showed lessened activity and

feathers ruffed; the Grey pigeon had slight paralysis of the left leg.

On December 18, the dietary of polished rice was discontinued and a ration of a specially prepared food with the following composition was given: equal quantities of chicken gumbo soup, vegetable soup. Roast beef hash and corned beef hash were ground together in a mill, making a coarse granular mixture, of which a tablespoonful for each bird was placed in a saucepan, water added, and boiled slowly for five minutes, when it was fed to the birds. This ration was given twice daily. At the first feeding the White pigeon in coop 3 and both birds in coop 4 ate ravenously of the food. The balance was forcibly fed by prying open the beak and putting a small bolus of food down their throats, repeating until it was thought the bird had been sufficiently fed. Below will be found their weights on December 18, and gradual gain in weight of all except the birds in coop 1, which died of rice starvation.

FEEDING EXPERIMENTS WITH PIGEONS ON A DIETARY OF THE SPECIALLY PREPARED FOODS.

Coop No. 1	Dec. 18	Dec. 25	Jan. 1
Bird No. 10.....	14	Died Dec. 25	
Bird No. 20.....	13	Died Dec. 22	
Coop No. 2			
Bird No. 10.....	15 $\frac{3}{4}$	23 $\frac{1}{4}$	25
Bird No. 20.....	15	18 $\frac{3}{4}$	22 $\frac{3}{4}$
Coop No. 3			
White Bird	8 $\frac{1}{2}$	13 $\frac{1}{4}$	14 $\frac{1}{2}$
Blue Bird	12 $\frac{1}{2}$	13 $\frac{1}{2}$	15 $\frac{1}{4}$
Coop No. 4			
Blue Bird	15	18 $\frac{3}{4}$	25 $\frac{1}{2}$
Grey Bird	15	19 $\frac{1}{4}$	22 $\frac{1}{4}$

On December 20, both birds in coop 1, Blue pigeon in coop 3, and Grey pigeon in coop 4 had all developed marked symptoms of avian beriberi or polyneuritis, wing drop and weakness of the tibiotarsal joints, and walking on toes of left leg instead of foot flat to floor; all were forcibly fed on the specially prepared foods. The rest of the birds were eating heartily twice daily when

fed. December 22, Bird No. 20, coop 1, died of polyneuritis, and on December 25, Bird No. 10, coop 1, died of polyneuritis. The weekly weighing on this day showed slight improvement in all the rest of the birds, with satisfactory increase in weight in all of the rest of the birds, except Blue pigeon in coop 3. He was very weak and unable to stand up, left leg paralyzed. He was still forcibly fed and was given 2 c. c. of yeast vitamine on three alternate nights, when his appetite improved and spastic symptoms lessened in degree. The administration of Funk's crude yeast vitamine plus the special diet soon overcame the polyneuritis symptoms and kept the bird alert and in active condition.

The remainder of the birds were active, hopping up on their perches, preening their plumage, and when let out of their coops, flying around the room.

The cages in which pigeons were kept were large and roomy, 36 inches square and 36 inches high, well ventilated, the four walls and top were built of window screening. A gritty combination of coarsely ground clam shells and finely divided calcined gravel was placed in copious quantities in each cage. A study of the weight table on polished rice shows loss in weight during the two weeks as follows:

Coop No. 1—One bird lost 2 $\frac{3}{4}$ ounces, and the other 1 ounce.

Coop No. 2—One bird lost 3 $\frac{3}{4}$ ounces, and the other 1 $\frac{3}{4}$ ounces.

Coop No. 3—One bird lost 2 ounces, and the other 1 $\frac{1}{2}$ ounces.

Coop No. 4—One bird lost 3 $\frac{3}{4}$ ounces, and the other 4 $\frac{1}{2}$ ounces.

During the two weeks on a polished rice dietary all the birds lost weight and reached the point where they would not eat the rice, notwithstanding the floors of the coops were

covered with the rice grains. Several had developed marked symptoms of polyneuritis and the remainder were in a droopy apathetic state. Two died of polyneuritis—the avian beriberi of fowls. Autopsies made on these two birds showed fatty heart with enlarged right auricle. The bones were fragile but contained no blood nor marrow; the mesentery had a greasy look and the intestines were strongly injected. The liver was soft and easily torn. The kidneys were soft with cortex highly injected, giving the appearance of general parenchymatous inflammation.

After placing the surviving pigeons on a dietary of special foods mentioned, it was interesting to watch improvement from day to day. They soon recovered from the apathy and droopiness which marked the polyneuritic syndrome and became more alert, appetite returned and finally they ate the new food ravenously and, as shown in the weight table, gained in two weeks as follows:

Coop No. 2—One bird gained $9\frac{3}{4}$ ounces, and the other $7\frac{3}{4}$ ounces.

Coop No. 3—One bird gained 6 ounces, and the other $6\frac{1}{4}$ ounces.

Coop No. 4—One bird gained $10\frac{1}{2}$ ounces, and the other $7\frac{1}{4}$ ounces.

The birds in coop 2 were registered White Kings, about two years old, and raised three sets of young the previous summer. At the end of the feeding experiment with the special nutrient diet they were respectively $5\frac{1}{2}$ and 6 ounces heavier than at the beginning of the experiment.

In view of the results recorded there can be no question but that all the pigeons would have died of polyneuritis—avian beriberi—if they had been left on the polished rice dietary; and on the other hand,

the experiment shows that the special food used contains the normal amount of Water Soluble B vitamine to sustain life and to promote growth and development.¹

Composition of Vitamine: Laboratory experimentation has been made to determine the exact chemical composition and physiologic action of vitamins. Patient research into the subject has established the fact that they do not possess toxic properties but even in infinitesimal amounts they promptly relieve the symptoms of deficiency diseases in both man and animal. Clinical experimentation has definitely proven that a dietary deficient in vitamins leads to the development of deficiency diseases, such as beriberi, scurvy, rickets, pellagra, etc. Just what these accessory food substances—vitamins—are, and the exact rôle they play in the body metabolism, is at present the subject of extended research and investigation by the leading biochemists and food experts of every country in the world.

The vitamine content of fresh food is greatest when the fresh vegetables or fruits reach their highest state of perfection and in meats when the animal or fowl reaches maturity and is well fed and physically fit. The animal body is unable to produce vitamins from vitamine-free food. All the higher animals, including man, get their vitamine supply directly or indirectly from the vegetable kingdom. Plant life synthesizes the vitamine, and man obtains the required vitamine supply by partaking either of animal or vegetable food. The cow stores up vitamine from the grasses, grains and fodder which she consumes. A portion of the vitamine is secreted in her milk, supplying the calf with the necessary vita-

¹ I am, at the present time, preparing to conduct experiments with puppies and guinea pigs to test out the Fat Soluble A vitamine and with grown dogs to test Water Soluble B vitamine.

mine. The balance of the vitamine is stored in the flesh of the cow, furnishing a valuable source of vitamine for man. The hen derives vitamine from the cereals and herbs she eats, and transfers a part of it to the eggs she lays. The vegetable kingdom, therefore, furnishes the vitamine supply so essential to animal life, and the plant laboratory builds up vitamine from simple inorganic compounds.

Colonel Vedder, M. C., U. S. A., in writing on the vitamins, says: "It should also be noted that all canned food must be regarded as possible beriberi producers. It has been shown by numerous investigators, including the writer, that heating to 120° C. destroys the beriberi, preventing vitamins in certain foods. All protein foods that are 'canned' must be subjected to about this amount of heat in order to kill all the putrefactive organisms, and such canned foods are, undoubtedly, *beriberi producers, when used in excess.*"

F. Gowland Hopkins, chairman of the Medical Research Committee appointed by the British Royal Society to report upon the present state of knowledge concerning accessory food factors (vitamins), says: "Tinned * * * meats can be dismissed in a word, as offering no possible protection from scurvy. Meat, in its fresh condition, contains the anti-scurvy factor in comparatively low concentration, and after exposure to the temperature necessary for sterilization it is impossible that any significant anti-scurvy properties should be retained."

The heat necessary to *sterilize* milk destroys its *vitamine content*, and a child fed exclusively on sterilized milk, unless given fresh orange juice, will develop scurvy—a deficiency disease. Moreover, the heat necessary to sterilize fresh fruits and vege-

tables and meats in the canning process destroys the vitamine content of most canned foods.

Vitamins are very susceptible to high temperatures and more especially if the high temperature is long continued. It is generally accepted that a temperature of 120° C. (270° F.) destroys the vitamine content of foods. In the process of ordinary cooking, food may be subjected to 100° C. (212° F.) without seriously impairing the vitamine content, but if subjected for a long period of time to a temperature of 250 to 270° F. the vitamine content will be absolutely destroyed.

405 Lexington Ave., N. Y.

IS COFFEE A DRINK OR A DRUG?

BY

EDWIN F. BOWERS, M. D.,

New York City.

There are any number of bright-eyed, rosy-cheeked men who used to drink a quart of whiskey a day—before the country became Sahara-ized, and booze, in quantity, became a luxury fitted only for the very wealthy.

Then there are men, who take their pipe or cigar out of their mouths only to speak, spit, eat or sleep.

Also, many people can pour tea and coffee into themselves from dewy dawn until night draws the sable mantle of her starry robe around her, and never bat an eye.

But I, for one, am not built in any of these ways. A quart of whiskey—barring fishing excursions or other accidents—should figure a liberal month's supply. I smoke more than four or five cigars a day I am as nervous as an old witch. Also, I palpitate like a *débutante*. And, if I drink even one cup of tea or coffee anywhere

within two or three hours of bedtime, I increase my pulse rate from five to fifteen, stiffen up the tension about a half dozen degrees, and stay awake for five or six hours to repent my foolishness.

I am only an average individual. With but rare exceptions, the whole well-known human race is constructed along substantially the same lines. For if ye prick us, do we not bleed; and if ye poison us, will we not curl up and die?

All of which brings me to the crux of my tale—which is, that tea and coffee are poisons, having potentialities for harm quite as dangerous as has rum, tobacco, opium, or any of the narcotics, the sale of which is so jealously safeguarded by our kind and noble government.

There is no guess-work about this proposition. It is not a mere abstraction, susceptible to three or four different correct explanations. It is a theorem almost as much in accord with the law of cause and effect as is the proposition that if a man picketh up a red-hot coal he'll casteth it away two and one-half times more quickly than he picked it up. Or, if he steppeth on a tack, he won't stay in one spot a single moment longer than is necessary to change the location of all two of his feet.

And, why should not it be so? Is there any particular reason why a drug found in common beverage should not be quite as poisonous as a drug found in any other combination, or location, or connection?

Just because we consume sixteen billion cups a year of the toxic beverage—more or less—is no reason we should pat ourselves between the shoulder blades, and pretend that caffeine and thein are inert drugs—quite as harmless as lycopodium.

Really, the fact that we are not all dead, or in the insane asylum, is a wonderful trib-

ute to our toughness. It proves conclusively that old Mithridates had a nifty idea when he pickled himself in all varieties of poison, taking them in increasing doses. He established such a tremendous degree of toleration for these poisons that his loving subjects finally had to kill him with an axe.

But we cannot all become Mithridateses. Too many of us would perish in the attempt, or else adorn a psychopathic pavilion.

As it is, the death list from tea and coffee addiction must be fairly high, if one only gave the poison the credit it had justly earned.

The Most Prevalent of all Forms of Narcotic Addiction.—So tea and coffee intoxication is probably the most prevalent of all forms of narcotic addiction. That it is not recognized more frequently, and treated for what it is, is merely because we are too close to the forest to observe the trees.

In other words, the symptoms of tea and coffee addiction are so common, and stimulate so closely a host of other conditions with seemingly definite pathologies, that we have neglected to ascribe to the poisonous influences of these beverages the conditions for which they are indubitably responsible.

But evidence is gradually accumulating, tending to show that coffee is a poison, with all the potentiality for harm that follows the unnecessary taking of drugs.

Likewise with tea, the alkaloid of which, thein, is identical in chemical and pathologic action with the alkaloid caffeine—the only difference being that if the tea is freshly made, by the quick-steeping process, one does not get quite so much of the alkaloid out of the tea and into the system as is the case with boiled coffee.

On the other hand, there seems but little doubt that the caffeine in tea is combined with tannin, in the form of tannate of caffeine. This substance is not very soluble in cold water, but it is readily soluble in hot water. And, if the drug will produce that fine healthy condition of tan that is the pride and joy of the leather manufacturer, its preserving and pickling action upon human stomachs—and upon the albuminous food that is put into human stomachs—may well be taken for granted.

Coffee Has No Food Value.—Coffee can assuredly not be classed as a food, for it does not build tissue, and its nutritive value is negligible. It contains no starch; it carries only 1.26 per cent. of protein, and its 12 per cent. of oil (caffeine) remains mostly in the grounds.

Coffee does, however, contain trifling amounts of sugar and dextrine, as well as traces of alcohol, which are absolutely unimportant from a physiologic viewpoint. So the sugar and cream added at the table are, by all odds, the most nourishing elements in a cup of coffee.

It is, however, the 1.23 per cent. of caffeine contained in coffee, which is the real factor that has made coffee one of the most insidious poisons that now menace the health of the human race.

There may, of course, be certain debilitated states in the organism which may temporarily require the administration of small doses of poison. This is a point that is somewhat beside the scope of our present argument, however.

And, if the physician feels impelled to prescribe *nux vomica*, *hyoscyamus*, *conium*, cocaine, opium or caffeine, that is his business—and it should be his exclusive business, for he knows what he is giving them for, and how much to give, and how long to keep on giving them.

But this does not excuse the daily use of caffeine-containing coffee as a general beverage any more than it would excuse the persistent and protracted use of strychnine, cocaine, or any other drug.

No one can deny that we are a caffeine-saturated race. One-half of all the world's production of coffee is consumed in America. It is estimated that our per capita consumption of coffee is now more than fifteen pounds for every man, woman and child in the United States, as against about seven pounds consumed in England. Every pound of coffee carries about 1.23 per cent. of caffeine. Estimating that each pound is sufficient for about thirty-five cups of coffee, of the strength ordinarily drunk in America, it can readily be seen that each cup of coffee carries from two to three grains of the drug caffeine.

This is about the usual dose prescribed by physicians who feel that their patients need this drug as a heart stimulant.

And so hundreds of thousands of our good folks, who consume from three to five cups of this poisonous beverage each day are whipping themselves over the turnstile of life at a rate that yearly lands thousands upon thousands of them in the sanitarium.

Yet, the wonder is not that there are so many cases of nervous, or heart, or kidney disorders among Americans, but that there are not more of them. The marvel is not that we are the most neurotic race of civilized beings on the face of the earth, but that we are not more neurotic and trigger tempered than we are.

The drug is served up morning, noon and night, at our tables, not to adult males and females alone, but even to little children.

Mr. Charles B. Towns, who has had unique opportunities for studying the effects of drugs on the human organism, and who has had equally unique opportunities

in attempting to relieve human beings of the results of these poisons, has found that coffee-intoxication is one of the most difficult of all forms of addiction to relieve.

An alcoholic, a morphine or a cigarette case is usually amenable to treatment, and quite usually responds to the depoisoning measures pursued in the sanitarium. But with coffee-drunkenness the habit is, if anything, much more firmly implanted than with any other drug, and the desire to quit the habit largely conspicuous by its absence.

And, as anybody who has had experience with narcotic addiction will tell you, the first requisite to relief consists in the heartfelt desire of the patient to get relief. Lacking this, all efforts are merely palliative. The patient slumps back into his former state just as soon as the first little period of depression manifests itself. And then he is worse off than he was before. For, in addition to his habit, he has achieved also a realization of the hopelessness of attempting to combat it.

Caffeine addiction is bad enough here with us, but as regards its use—or rather, abuse—in tea, it is even worse in Great Britain.

In Ireland, for instance, at the present time, there is considerable concern over the deleterious influence of caffeine addiction. In a report furnished by Mr. J. P. Dalton, inspector of the national schools of Ireland, he says:

"Of the many abuses that require correction, one in particular must be vigorously combated if the race is to be preserved from deterioration. The use of tea is now carried to such a dangerous excess that it ranks before alcohol as an enemy of the public health."

And yet, among our own people, tea-bibbing has been increasing to such an extent that a lady who cannot dispose of a

dozen or more cups during the course of a day is of no more use in society than a "one-bottle" man used to be at an alumni dinner.

Caffeine (or thein, as it is called when found in tea) has been characterized as a heart stimulant. Actually, it is a heart irritant. It increases the pulse action, and raises blood-pressure.

By its effect on the vasomotor nerves, it constricts the diameter of the capillaries, and forces the heart to work harder in order to pump the blood thru the blood-vessels. In excessively large doses, it may even increase the heart's action to such an extent that the ventricles of the heart do not have time to fill properly—a condition likely to predispose to grave organic disease if persisted in for any length of time.

A "good" cup of coffee will effect an average raise in blood-pressure of from five to fifteen degrees. And for a plethoric individual, who is already registering from 160 to 180 degrees of blood-pressure, this extra five or fifteen degrees are just sufficient to put him on the danger line—if not immediately, then possibly a little later, when the disorganizing effect that excessive blood-pressure almost always has upon the kidney cells, manifests itself.

These degenerative changes, causing as they do, an extra burden of elimination, wear out the kidney cells prematurely, while the constant whipping up of the heart action, and of the dilating power of the blood-vessels, helps along in the grim work of producing degenerative changes in the walls of the blood-vessels.

Coffee is an Etiologic Factor in Bright's.—So it is quite likely that the alarming increase in mortality from Bright's disease and arteriosclerosis—especially in our large cities, where the antidotal action of perspiration and rapid oxidation of open-air work

is not so universal—may be justly attributed to our addiction to caffeine indulgence.

In Chicago alone, during the past thirty years, there has been an increase in the death-rate from circulatory and kidney disorders amounting to more than 160 per cent. A similar increase has been noted in most of the other large cities in this country, where mortality statistics are carefully kept.

Dr. Harvey W. Wiley, in discussing this phase of the matter, says:

"Caffeine has a direct tendency to create Bright's disease. Caffeine is the essential alkaloid of coffee, as thein is of tea. Both are dangerous and detrimental drugs."

The very common habit of taking a cup of tea, or coffee, or cocoa to overcome the feeling of fatigue—which is Nature's signal that the system is loaded up with fatigue poisons, requiring oxidation, sleep and rest to convert—pulls down the danger signals which Nature is trying to flash as a warning, and throws them into the ditch—permitting us to rush pell-mell into physiologic disaster.

The Journal of the American Medical Association, discussing this phase of the question, says:

"Caffeine does not increase the functions of the normal brain under the best conditions for mental work, that is, after sound and refreshing sleep and sufficient rest with freedom from worry; but when small doses are used after severe physical or mental effort, it causes fatigue to disappear, and the perception of sensory stimuli and the association of ideas are stimulated. A good illustration of the inability of caffeine, or other drug, to improve the best of normal conditions, is afforded by the experience of athletes, who find that caffeine tends to lessen, rather than increase, their performances."

The late Dr. William Waugh, one of the

shrewdest medical observers of modern times, in his *Alkaloidal Therapeutics*, says:

"In administering caffeine to warm blooded animals in non-toxic doses, reflex irritability is increased. The animal starts at every touch, and becomes tetanic at times, even without evident cause. Small doses increase the pulse rate; larger doses render it irregular and slower, till the heart stops. Its action resembles strychnia. In man, small doses, up to one and one half grains, slow the pulse. Larger doses cause toxic symptoms, ringing of the ears, tremor of the hands, headache, flashes, vertigo, insomnia, mental confusion or delirium, blindness and transient deafness, palpitation of the heart, rapid pulse, irregular heart action, and a sense of oppression in the chest."

How We "Spill the Beans."—And yet, from the official statistics of coffee consumption in the United States a year or two ago, it was stated that our use of the bean had increased to between "nine hundred million and a billion pounds"—which is spilling the beans, with a vengeance.

Dr. C. R. Taylor, who made a very interesting study of the effects of coffee drinking on 464 school children, found that approximately twenty-nine per cent of these children drank no coffee, while seventy-one per cent. of them were in the habit of drinking from one to two cups a day.

Dr. Taylor determined that, as regards physical measurements, the children who were addicted to coffee averaged from one and one-half pounds to as much as four pounds less in weight, and from one-half inch to an inch in height less than the children who were coffee abstainers. In their ability to grip the hand-testing machine, the coffee-drinking children were also found to have an average of three pounds less in strength than the "teetotalers."

Dr. Taylor is convinced that regular coffee

fee drinking by children tends to weaken them physically, as well as mentally, and infers that the same thing would apply also to adults.

Of course, many individuals can drink coffee, and "get away with it." But by far the greater majority of human beings are unduly stimulated by the drinking of coffee—especially at night.

Caffeine addiction hinders the removal of the natural waste of the system. This, in turn, is a cause for rheumatism, sciatica, neuritis, and the excessive storing up of uric acid in the system—as well as assisting in the general lowering of the nervous and physiologic tone, which predisposes to the development of all forms of digestive disorders.

Many people take a cup of tea or coffee to "stay the stomach." The system cries out for food—and they give it poison! And then they wonder why they are debilitated, anemic, and generally under par.

And so, we know that coffee drinking is the cause of high blood-pressure, worn-out arteries, frazzled kidneys, and frayed hearts. We know that excessive coffee drinking—and even the smallest amounts may be excessive to many—deranges the nervous system and causes all manner of chronic ills.

More and more, physicians are coming to recognize these facts; and more and more, they are putting tea and coffee where by right they belong—under the ban, and beyond the pale of all medical endorsement.

Cancer is not inherited (*Med. Herald*). It is not certain even that a tendency to the disease is inherited. Cancer is so frequent that simply by the law of chance there may be many cases in some families, and this gives rise to much needless worry about inheriting the disease.

A DOGMATIC EXPRESSION OF BELIEF RELATIVE TO CANCER.

BY

EVAN O'NEIL KANE, M. D.,

Kane, Pa.

Cancer is a communicable disease, the contagion being due to some infecting organism. This seizes upon the afflicted individual thru a localized area rendered vulnerable by continued irritation.

The microorganism is feebly successful in its early attempts to produce malignancy and is slow in developing it. It fails to overcome salutary influences unless favored by the elements of time (chronicity), a disease-weakened condition of the region in which it grows and, perhaps, additionally a susceptibility due to inherited predisposition. Thus chronic ulcers, fissures, abrasions, calli, warts and moles; a chronically inflamed gall-bladder, stomach, breast, uterus or prostate are more prone to malignant invasions than sound tissues. And from the above causes the aged naturally fall the most common prey to its ravages.

Altho the microscope has, so far, failed in demonstrating a specific bacterium, I am confident that such exists. The apparent impossibility of inoculating a non-cancerous subject, while a patient evidencing cancer infection can rapidly develop adventitious foci traumatically is easily explained on the assumption that a normal immunizing power possessed by the former has been overcome in the case of the latter.

There are many ways familiar to us all in which cancer displays symptoms of a germ origin. It is unnecessary to dwell upon them.

What I wish to call to your attention is the disproportionately large increase in mortalities from cancer over that of the

population—an increase greater than can be accounted for by the extended age limit of the present generation bringing its last decades farther within the "cancer zone." This appalling per capita increase is too significant of a cancer contagion to be explained on any other hypothesis.

No other cause for so alarming a spread of cancer can be suggested than that some microorganism is attacking the human race, unchecked by opposing forces, natural or artificial.

Cancer mortality would be greatly reduced if the infectious nature of the malady were acknowledged and the necessity for shielding the community from its contamination were recognized. In the treatment of the disease this important truth should be kept continually in mind. Operation should be resorted to only when no other course is possible, because the knife spreads auto-infections by tearing down nature's protective barriers against lymphatic and circulatory extension. The custom of taking sections, however small, for examination is to be condemned for the same reason as, also, rough handling of the affected area. The physician should examine and treat all cases with gloved hands.

He never should pass directly from a cancer-infected individual to the manipulation of another, free from this disease, without taking suitable precaution against transferring the ailment. The infectious nature of these malignancies should be made known to the public with proper instructions for self-protections and boards of health ought to be as careful in instituting measures against the spread of cancer as of tuberculosis, leprosy, syphilis and other communicable disease.

230 Clay St.



Gland Disharmony in Young Women and Girls.—Torbett (*Medical Record*, May 21, 1921) claims that many married and also many young girls are not promptly relieved of annoying nervous symptoms because of the difficulty in determining their gland disharmony. These glandular dysfunctions are frequently hereditary as a careful family history will disclose. Rhythmical regularity is a pituitrin function and irregularity its dysfunction. The cystic ovary with its varied contributory causes and many unpleasant symptoms of pain, nervousness, anemia, and mental unrest, is a trouble that demands our skill to give relief. Several cases during the past year with pain, nausea, nervousness, and even some so toxic as to have fever at that time have been relieved entirely by the whole ovarian substance with cacodylate of soda or iron intravenously, tincture of iodine and menthol painted locally for pain in conjunction with the generous full vitamins, fresh fruit, vegetable, and milk diet. Best results, of course, always follow the early recognition of the causative factors of the glandular dysfunction. S. W. Bandler, writing in the *Medical Clinics of North America*, ii, 4, 236, shows that the ovarian, thyroid, suprarenal, and posterior-pituitary glands support the genitalia, while the thymus, mammary, anterior-pituitary, and placental depress them.

Dr. Walter Timme has an article in the same issue on the new pluriglandular compensatory syndrome characterized by severe spells of intratemporal or pituitary headaches, blood sugar disturbances, intense fatigability, temperamental unfitness, irregular or abnormal skeletal or bone development, and unnatural spells of drowsiness. Such cases, he says, are relieved by being fed the whole pituitary body, from one to four grains every second day.

Perhaps the most difficult cases to recognize are those who in early or middle life have had one or more hyperactive glands that later were partially removed by surgery or become exhausted and atrophied from excessive use. Focal or systemic infec-

tions, intestinal stasis and its toxemias, a one-sided diet with too few vitamins, worry, grief, shock, and excessive use of a gland are the principal causative factors giving disharmony.

The fresh gland dose is usually about five times that of the desiccated gland and can be best given in institutions by being prepared in the diet kitchen, being ground up with bread or rice puddings and afterwards slightly toasted. It is our intention to further follow the results of such feeding in the diet kitchen of our institution in chronic cases.

In concluding, the author says that endocrinology offers a large and useful field for study and discovery, but it behooves us to use caution to temper our judgment and enthusiasm, as thyroid extract, pituitrin, and adrenin are formidable weapons of great danger when not carefully and correctly used.

When to Use Pituitary Extract.—The anterior lobe of the gland, says Hutton (*Ill. Med. Jour.*, Dec., 1920), thru its hormone presides over muscle tonus, skeletal growth and sexual development. If it is inactive prior to puberty, the person affected will have small hands; his stature will be short; the genitalia will be small; and he will lack masculinity. Usually, the temperature is subnormal, the pulse slow and the blood pressure low. A preparation of its hormone is indicated in children and youths showing Froehlich's syndrome and other signs of retarded development, especially affecting the sexual organs, with features resembling the eunuch; also in adults lacking normal virility.

The posterior lobe plays a part, along with the thyroid, in regulating metabolism. It also maintains tonus of involuntary muscles, as the arteries, intestines and uterus. Deficiency of its secretion gives rise to mental apathy, atonicity, adiposity, debility, low blood pressure, arrhythmic or quickened pulse rate and heat flushes. By giving an extract or solution of the gland, one can amplify and slow the pulse and increase arterial tension. It is useful in runaway heart, especially in infectious diseases. But its chief use to us is, to excite uterine contractions in labor and to arrest post-partum hemorrhage. For these purposes, a solution given hypo-

dermically is said to serve better than adrenalin, in that the effect is longer sustained. However, it should not be given where abnormal thinness of the uterine wall is suspected; nor in arterio-sclerosis; nor in the early stage of labor. Other uses for pituitary extracts are: shock, enuresis, dysuria, diabetes insipidus, meteorism; intestinal atony; metrorrhagia; and others.

Treatment of Vomiting in Pregnancy by Adrenalin.—Ruthery and Bordet (*Annales de Medecine*, July, 1920) report excellent results obtained in the treatment of persistent vomiting in pregnancy by adrenalin. They give the drug by hypodermic injection, 1 mg. of adrenalin hydrochloride in 250 c. c. of normal saline, by ingestion of 1 mg., or by enema containing 1 mg. The daily amount given does not exceed 2 mg., and the total amount given has been from 4 to 8 mg. in the course of from 4 to 7 days.

The vomiting ceases almost immediately, the general condition improves quickly, diuresis increases by degrees, and the arterial tension is in no way altered.

Diabetes Insipidus a Hypopituitary Syndrome.—Maranon (*Endocrinology*, Mar., 1921) holds that the internal secretion of the posterior lobe of the hypophysis exercises, physiologically, a controlling action on the elimination of water thru the renal filter and that, thru the disturbance of this controlling mechanism, diabetes insipidus is produced. In his opinion, the hypophysial oliguric hormone may, perhaps, act partly directly on the renal cell (either increasing its power to concentrate dissolved matter, or increasing its capacity to retain water), and partly by means of the nervous system, collaborating with the oliguric centers at the base of the encephalon as postulated by Pende. The modifications of these centers would be transmitted to the kidney, probably by way of the sympathetic, as some of the experiments seem to show. It is very probable, as Cushing and Biedl have suggested, that the hypophysial hormone ascends by the tuber cinereum to act on the proximal mesencephalic

centers. Maranon and Rosique showed experimentally in one instance that the lesion producing a very intense diabetes insipidus was the fibrous scar which was produced around the shore which separated the hypophysis from the nervous tissue of the infundibular region. Maranon insists on the importance of the emotions in the pathogeny of this disease.



Psychopathology.

To the Editor,
AMERICAN MEDICINE:
New York City.

On reading the June issue of AMERICAN MEDICINE, I have noticed the editorial "Psychopathology," based on the meeting of the American Psychopathological Association, held in Atlantic City on June 11." The editorial in question is not wholly fair to the "Freudians" in not crediting them with having recognized the importance of the Ego instincts in psychopathology. To make only one quotation to justify the contention that this phase of the psyche was a matter of consideration for many years back, I refer to "The History of the Psychoanalytic Movement" appearing in English in 1916. In this Freud discusses Adler's "The Nervous Character," and states that Adler "makes good contributions to the psychology of the ego, which are superfluous but admissible"—"The elements of the first kind (the ego contributions above referred to) have never been ignored by psychoanalysis—psychoanalysis had a greater interest in showing that all ego strivings are mixed with libidinous components. Adler's theory emphasizes the opposite to this; namely, that all libidinous feelings contain an admixture of egotism." Further along Freud states "Psychoanalysis early recognized that every neurotic symptom owes the possibility of its existence to some compromise. It must, therefore, put also to some good account the demands of the ego which manages the repression. —" By this, Freud means that what has been called the ego-ideal realizes to it the danger of accepting or acknowledging what are generally considered repressed wishes, and in the conflict, a neurosis results.

Back in 1908 Abraham of Berlin pointed out the importance of the ego impulses, so very evident in the dementia præcox and the manic depressive psychoses, especially. (Centralbl. f. Nervenheilk. u. Psychiatrie, 1908, Heft 2.)

Most recently of all, Freud in the spring of 1920, under the title "Jenseits des Lust-

prinzips" published a very interesting, comprehensive, yet withal, as he himself says, a very speculative treatise on the relative importance of the ego and sex instincts in psychopathology, attempting to trace out the genesis of each set of impulses.

So you see that there is some evidence that the Freudians by no means discounted the importance of the ego instinct in psychopathology.

Just one more remark. The editorial states "There is renewed promise in the conscious awakening of psychopathologists that personality and life are more than a pornographic concentrate."

Appearing in a journal of less scientific standing, and from the pen of an editor of less recognized professional ability and standing than that of AMERICAN MEDICINE, one might well disregard it. However, under the circumstances, it seems to me that the sentence quoted is more vituperative than exact. While flings of this nature were common enough years ago, yet fairness demands that the recognition of the great value of much of what Freud has given us, should make his critic hesitate to characterize the entire productions of Freud, by one word, and that word, "pornographic."

Trotter in his book, "Instincts of the Herd in Peace and War," states that it is well that the monumental work of Freud has not been accepted at once; its value consists in the necessity it imposes on one, for serious study and investigation. I quote Trotter's reference to Freud, on page 70, in the book above referred to. "The most remarkable attack upon the problems of psychology which has been made from the purely human standpoint is that in which the rich genius of Sigmund Freud was and still is the pioneer." Surely when such a serious and competent scientist as Trotter is, thus characterizes the work of Freud, it behooves us to limit our criticism to special fields of the Freudian psychology, and not condemn it *in toto*.

Very truly yours,

ADOLPH STERN.



Treatment of Asthmatic Attacks.—An attack of asthma can be promptly cut short by subcutaneous injection of epinephrin, according to Hurst, in *The Lancet* (May 28, 1921). The most efficacious dose is very much smaller than that generally given. In many cases a single minim of 1:1,000 is enough, more than two minutes being rarely required. But the injection should be given at the beginning of an attack, directly a patient wakes in the night, for instance, and not half an hour or an hour later when it has reached its full development. The relief is so immediate that the patient

often falls asleep within five minutes of waking in an attack. Such small doses give rise to no unpleasant sensations, such as frequently follow the injection of three or more minims, and the blood-pressure does not rise at all. Consequently, the treatment can be continued for long periods without any fear of ultimately causing arteriosclerosis. For slight attacks and for the feeling of slight dyspnea, which may persist thruout the day when severe attacks occur at night, atropin and cocain may be used with an atomizer. No patient should be allowed to use any of the numerous powders which are used by inhaling the fumes produced when they are burnt, as they invariably aggravate any bronchitis which may be present, and actually give rise to bronchitis in patients who have hitherto been free from it. The chief aim must be to devise such a course of action for the patient that he will eventually have no attacks to treat.

The Surgical Treatment of Neuralgia.—Sir William Thorburn (*The Practitioner*, May, 1921) uses the term "neuralgia" in its widest sense. It connotes no pathology and no etiology, but merely indicates pain in the distribution of one or more nerves, not due to any obvious gross lesion; in fact, he uses it in the sense in which it is commonly employed in general practice, and even by the laity. This being so, it is necessary in the first place to realize that such pain may be due to very varying conditions, by no means all of which call for surgical treatment; and the first essential in connection with treatment of any kind is an accurate diagnosis, if such can be made, of the real cause of the neuralgic pain. For purposes of convenience he divides the varying types of neuralgia into five groups: 1. Neuralgias due to certain general conditions, probably toxic in their nature, such as anemia, malaria, gout, rheumatism, and syphilis. None of these call for surgical treatment. 2. Cases due to pressure upon nerves, in the great majority of which surgery will call for consideration. If an accurate diagnosis is made, the question of treatment will follow almost as a matter of course. 3. Neuralgias associated with locomotor ataxia, sometimes with other para-syphilitic diseases of the nervous system. These are placed under a separate group because the pain is often severe, very long-standing, and calls for a somewhat special line of treatment. 4. Neuralgias due to intraneural lesions. Under this category, among others, come cases of causalgia, which became familiar during the war. The writer's strong feeling is that in all cases of persistent neuralgia in which one is reasonably confident that the lesion lies within the nerve trunk, the proper course to pursue is to expose the trunk as far as possible from end to end. 5. "Ganglionic neuralgia," so-called, provisionally, on the assumption that the essential lesion lies not within the nerve trunk, but in the ganglion with which such nerve trunk is associated, the two outstanding instances being

trigeminal neuralgia and postherpetic neuralgia. To deal with the last first, there is a reasonable presumption that persistent neuralgia after herpes is due to a lesion of the posterior root ganglion of the nerve concerned, and that division of the posterior roots involved, with or without removal of the ganglia, ought to cure the condition. Of trigeminal neuralgia the writer has had many complete and certainly permanent cures by removal of the Gasserian ganglion.

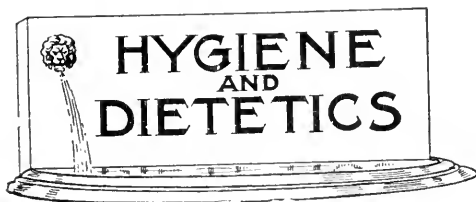
Saligenin, a New Non-toxic Local Anesthetic.

—Saligenin is the alcohol corresponding to salicylic acid and is oxidized to salicylic acid in the body. It is formed in nature by the splitting up of the glucoside salicin by the enzyme emulsion and it can be prepared synthetically in various ways. Hirschfelder (*Minnesota Medicine*, June, 1921) says it has been found that saligenin is distinctly less irritant to the tissues than benzyl alcohol and that it is much more certain in its action. For ordinary purposes of inflation anesthesia a 2 per cent. solution is satisfactory. It is water soluble up to 10 per cent. and is from five to ten times less toxic than procain and from twenty-five to fifty times less toxic than cocain. Judging from results on the dog and cat (from 0.4 to 0.7 gm. per kilogram) a man could tolerate up to 1 or 2 ounces of the solid drug or from 1,500 to 3,000 c. c. of a 2 per cent. solution intravenously—or about 1 gallon subcutaneously. Hirschfelder makes reference to the results obtained by various operators with saligenin as the anesthetic.

The Effect of Small Doses of Atropine on the Heart Rate.—McGuigan (*Jour. of the Amer. Med. Assn.*, May 14, 1921) holds that small doses of atropine, if they influence the heart rate, only slow it. This slowing is produced by an action on the vagus center in the medulla. There may also be some stimulation of the vagus endings. Larger doses of atropine, 0.001 gm. (1/60 grain), still cause slowing, with a tendency to irregularity. This is the point at which the vagus endings begin to be paralyzed. If the dose is still further increased, 0.002 gm. (1/30 grain), the primary slowing of the heart rate may be so transient that it escapes notice. If the object in giving atropine is to paralyze the vagus endings and release the heart (presumably also to relax the smaller bronchioles), at least 1/60 grain, hypodermically, is necessary. In urgent cases 1/30 grain should be given.

Benzyl Benzoate in High Blood-pressure.—Laubry and Mougeot (*Bulletins de la Société Médicale des Hôpitaux*, May 20, 1921) have been giving this drug a trial in their service, and the experiences with it are to be reported in Périon's thesis. In this communication they extol its effects in cases of high blood-pressure, saying, "It should be ranked among the ad-

juvants giving surprising results sometimes, rarely negligible, never harmful, useful to alternate or combine with other drugs.



High Fat Diet in Diabetes Mellitus.—In twenty-eight cases observed by Newburgh and Marsh (*Archives of Internal Medicine*, July 15, 1921) a high fat diet brought the blood sugar down to normal and kept it at that level during the period of observation. Seven patients had a severe nephritis. The blood sugar of each of these individuals was brought to a point well within normal limits. Six cases show well the occurrence of hyperglycemia resulting from diets high in protein and the reduction of the blood sugar to within normal limits subsequent to the use of a diet low in protein and high in fat. One case is especially instructive in this respect. After four days on a diet containing 37 gm. protein and 1,400 calories, the blood sugar was 0.135 per cent.; after an increase of the protein to 50 gm., with a slight decrease in carbohydrate and total calories, a hyperglycemia of 0.195 per cent. is noted. A return to the former diet brought the blood sugar down to 0.130 per cent. while the substitution of the second diet again produced a hyperglycemia of 0.190 per cent. In five cases response to treatment was not satisfactory.

Danger of Low Protein Diet.—Michael (*Archives of Dermatology and Syphilology*, October, 1920) cited a case which exemplifies three important facts: (1) the inadvisability of instituting a diet rich in carbohydrates without previous knowledge of the patient's ability to take care of it; (2) that absence of glycosuria is not always an index of safety; and (3) that a glucose tolerance test may indicate a state of grave danger to the patient, which may be aggravated unwittingly by a rich carbohydrate diet, such as is usually instituted when psoriasis is placed on low protein intakes. Most patients on a low protein diet receive an increased carbohydrate ration. A diet rich in carbohydrates is contraindicated in patients who present a prodiabetic condition. Patients who have psoriasis or other dermatoses, in which a low protein diet is often resorted to, may also be prediabetics. Therefore, before a special diet, low in protein and rich in carbohydrates, is instituted, the sugar tolerance of the patient should be ascertained.

Water Soluble Vitamin in Orange, Lemon and Grapefruit.—According to Osborne and Mendel (*Jour. of Biological Chemistry*, July,

1920) the fresh juices of the edible parts of the orange, lemon and grapefruit contain water soluble (B) vitamin. Their potency in this respect is quite similar to that of comparable volumes of cow's milk. The efficiency of these fruit juices is not lost by suitable modes of desiccation. A sample of grape juice tested was less potent than equal volumes of the fruit juices mentioned. The edible portions of apples and pears furnish some water soluble vitamin; the quantity of these fruits necessary to supply this dietary essential is relatively very large, so that from a comparative standpoint they cannot be regarded as rich in this food factor. Prunes apparently are richer in the water soluble vitamin. From preliminary experiments it seems doubtful whether the juices of the lemon or grapefruit contain more than traces, if any, of the fat soluble vitamin. Observations on orange juice are indicative of some potency in this vitamin.

Temperature Control as Related to Improvement in Milk, Cream and Butter.—There is not a package of milk or cream or a pound of butter sold today. Kitchen (*Med. Record*, April 2, 1921) claims, that is as good as it should be, or as good as it can easily be made, because: (1) of the uncertainty that exists in regard to the character of all such products as to infections and toxic contaminations; (2) of the certainty that all such products are more or less contaminated with putrefactive products, and (3) none of these products is of the highest attainable gustatory excellence. Furthermore, none of these products is sold at as low a price as that for which they should be sold. The reason for the existence of this state of affairs is, more than anything else, due to a lack of applying specifically corrective and preventive temperature influences practically continuously between the times of the drawing of the milk, and the consumption of the milk, or the cream and butter derived from the milk. This defect is unquestionably due to ignorance as to the real existing condition and as to how to meet and overcome that condition. One basic reason why such foods are not sold at lower prices, Kitchen says, is owing to the fact of the reprehensible activities of the several cattle breeding associations, breeders, experimental stations, the trade press, and dairy farmers, in unwarrantably holding the idea that an unreasonably large amount of milk production in the cow is a virtue. The world does not need more milk; it needs a lesser amount of milk, but milk of better quality. Galactorrhea in the cow is a disease, as well as in the human female, that results in a decrease of constitutional strength, depleted breeding ability, increased tendency to mammary and other troubles, and sensitivity to the invasion of bovine tuberculosis and other troubles. To counteract even partly such tendencies in high power cows they must be met by an increased uneconomic feeding of easily digested, high priced grain concentrates and other foods, if the tendencies are to be counteracted and constitutional strength maintained in the cow.

NEWS NOTES AND ANNOUNCEMENTS

Surgical Inventions.—It has been stated recently in a daily paper that the London Hospital, in the East End of London, has, by means of the inventions of two members of its staff placed two important additions to the surgeon's art within reach of the profession in all parts of the world. One of these, a new form of sterilized catgut, is the result of over ten years' expert investigation by Mr. H. P. Morley, the chief of the Ligature Department, who has, it is said, produced a catgut that is not only absolutely sterilized, but will "persist" or last for definite periods of ten, twenty, thirty, or forty days in the wound as the surgeon may require, and then become rapidly absorbed after the time specified. The second invention is that of Mr. H. S. Souttar, head of the surgical unit of the hospital, and consists of an eyeless needle. The needle has in place of an eye a minute hole bored longitudinally in the head. An end of the catgut is placed in this and sealed in so that the surgeon can sew with a single thread. Both the inventors have placed their inventions at the disposal of the London Hospital.

American Public Health Association Moves to New York City.—The American Public Health Association moved its offices from Boston to New York on May 1st, in order to promote closer co-operation with other national health agencies. A National Health Council was recently organized, embracing nine leading national agencies, whose major functions relate to health. One of the first steps of the Council was to arrange for the renting of two floors of the Penn Terminal Building at New York City. This building is at 370 Seventh Avenue, adjoining the Pennsylvania Depot. The following national health agencies will be housed there: American Social Hygiene Association, National Committee for Mental Hygiene, National Organization for Public Health Nursing, National Tuberculosis Association, American Public Health Association, Bureau of Social Hygiene, Child Health Organization of America, Maternity Center Association, New York Community Service, New York Diet Kitchen Association, National Health Council.

These agencies will co-operate in varying degrees in the use of a common library, multi-graph, dictaphone, mailing, shipping and similar services, resulting in increased efficiency and decreased expense.

Hereafter, address all mail for the American

Public Health Association to 370 Seventh Avenue, New York.

Peking Union Medical College.—Plans have been announced for the dedication of the new buildings of the Peking Union Medical College, erected by the China Medical Board of the Rockefeller Foundation. The ceremonies will fill the week from September 15th to 22nd, and will include an international medical conference, to which scientists from America and European countries as well as from the Far East, have been invited. At the time will also occur the inauguration of the director of the college, Dr. Henry S. Houghton, and regular sessions of the institution's board of trustees, which is composed of representatives of the Rockefeller Foundation and of six missionary societies which had maintained an earlier medical college in Peking. The Peking Union Medical College comprises not only the medical school but also a two hundred and fifty bed hospital with outpatient clinics, a nurses' training school, and a premedical school, an institution of junior college grade with a distinct faculty and group of laboratory and class-room buildings.

Chemists Fear New Dry Bans.—The counsel for the National Wholesale Druggists' Association, W. L. Crounse, before a recent meeting at the Chemical Club in New York City declared that the Volstead amendments would stop the manufacture of necessary medicines. He alleges that alcohol is being denied to reputable pharmaceutical manufacturers and wholesale druggists and, at the same time, permits have been issued to 4,000 persons not on record as users of alcohol before prohibition, and who are now employing it as a basis for bootleg whiskey. Mr. Crounse asserts that many reputable manufacturers have had their alcohol supplies cut off for from two to six weeks by some subordinate in the Bureau who decided that these firms were using more alcohol than he deemed necessary. Their requisitions have been denied despite the fact that they never have exceeded the permits and bonds of the houses in question. He says there are 3,600 medicinal preparations manufactured in the United States in which alcohol is a necessary ingredient.

A Bust of Morton for the Hall of Fame.—In the election of Dr. Wm. T. G. Morton to the Hall of Fame the allied professions of medicine and dentistry have been singularly honored. By their overwhelming vote the electors have also evidenced the appreciation of the public at large for the beneficence of anesthesia.

Recently, at the Annual Dinner of the American Anesthetists in Boston during A. M. A. Week, Dr. S. Adolphus Knopf, the elector most responsible for the honoring of Morton, said it would be a proud privilege for the Associated

Anesthetists to place a bronze bust of Morton in the niche assigned him by the electors. This is to be done in celebration of the Diamond Jubilee Anniversary of Morton's Demonstration of Ether Anesthesia.

The Associated Anesthetists, as well as other prominent leaders of the allied professions, are, therefore, urging all those interested to make a substantial contribution for this purpose. Send your check or money order at once to F. H. McMechan, M. D., Sec'y-Treas., Associated Anesthetists, Lake Shore Road, Avon Lake, Ohio.

Standardization of Military Medical Teaching.—Surgeon-General Ireland in planning to call a conference at the Medical Field Service School at Carlisle, Pa., in July, to bring about the standardization of teaching and instruction in the Medical Department of the Army. A revision of the textbooks will also be studied. This conference will be attended by all representatives of the Medical Department who are engaged in teaching functions thruout the country. The result of this conference will effect uniform instruction for medical officers in all their duties both in the field and in garrison. One of the main subjects to be taken up is

The Service of the Medical Department of an Infantry Division in Combat."

Senator McCormick Introduces Welfare Bill.

—By a measure introduced by Senator McCormick of Illinois in the Senate, it is proposed to create a Department of Public Welfare to take over in their entirety the functions of the Bureau of War Risk Insurance, the office of the Surgeon-General of the Public Health Service and the United States Public Health Service. The proposed measure also provides that the new department has jurisdiction over the St. Elizabeth's Hospital, the Howard University, the Freedmen's Hospital, the National Home of Disabled Volunteer Soldiers, the Columbian Institute for the Deaf, The Federal Board of Vocational Education is abolished in its entirety and its functions transferred to the new department. The United States Interdepartmental Social Hygiene Board is also eliminated and transferred to the new department similarly. All boards, bureaus, commissions and branches of the service affecting public health will come under the new Secretary of Public Welfare, according to this measure, who would be a member of the President's cabinet.

Surgeon-General Braisted Signally Honored.

Rear Admiral William C. Braisted was unanimously elected president of the Philadelphia College of Pharmacy and Science, at a meeting of the members held on May 9th. Admiral Braisted served on many vessels and in many naval hospitals, and was twice instructor in surgery in the Naval Medical School. He fitted out and equipped the hospital ship *Relief*. Dur-

ing the Russo-Japanese war he represented the Medical Department in Japan, and was decorated by the Mikado. During the World War the surgical, medical and pharmaceutical branches of the Navy were under his charge. He recently retired as Surgeon-General and Chief of the Bureau of Medicine and Surgery of the U. S. Navy, a position which he had held since 1914.

American Journal of Tropical Medicine.

We have received the first number of this bimonthly journal published under the auspices of the American Society of Tropical Medicine. The editor is Major H. J. Nichols, M. C., U. S. A., who is assisted by an advisory board composed of most of the men best known in this country for their work in tropical diseases. The publishers are the Williams & Wilkins Company of Baltimore. The first issue contains a number of interesting contributions and its appearance augurs well for the success of this new undertaking. There is no country in the Temperate Zone where a knowledge of tropical pathology is more necessary than in ours, and the Society of Tropical Medicine is to be congratulated on at last possessing an official organ and one that gives such promise of usefulness.

Panama Purchases Gorgas' Bust.

—The government of Panama has purchased a bronze bust of Gorgas, which will be placed at the entrance of the Santo Tomás Hospital at Panama. President Porras of Panama, in writing to the English sculptor in charge of the work, P. Bryant Baker, has stated "We appreciate very deeply the sanitary work accomplished by Dr. Gorgas in Panama and feel this is one of the most appropriate ways of showing our gratitude."

New York and New England Association of Railway Surgeons.

—The thirty-first annual session of this Association will be held at the Hotel McAlpin, New York, on Saturday, October 29, 1921. Dr. Charles H. Mayo, of Rochester, Minn., will deliver the oration in surgery. The program will include a symposium on surgery of the stomach and duodenum. The officers of the Association are: President, Dr. J. Frank Black, of White Plains, N. Y.; corresponding secretary, Dr. George Chaffee, of Binghamton, N. Y.

Director of Tuberculosis Division Resigns.

Dr. Malcolm F. Lent, Director of the Division of Tuberculosis of the New York State Department of Health, has tendered his resignation, effective July 1, in order to practice his specialty at Saranac Lake, N. Y. Dr. Lent was formerly Superintendent of Stony Wold Tuberculosis Sanatorium at Lake Kushaqua, N. Y.

American Medicine

G. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

The Relation of Marital Happiness to Public Health.—Investigations of marriage and the status of sex life in marriage have rarely been attacked in the broad manner that has been attempted by the *Bureau of Social Hygiene*. The preliminary statement of the results of a questionnaire study of the sex life of normal married women appears in the *Social Hygiene Bulletin*, June, 1921. Admitting at once the inherent difficulties and the limitations of the questionnaire method, there is no reason to doubt the statements that have been submitted by the thousand women who filled out the various questions which covered childhood, adolescence, marriage, and, indeed, the menopause. The questions were formulated carefully and their content and form were established after a consultation with competent advisers in psychology, psychiatry, and sociology.

The results naturally came from a selected group—in a sense, a self-selected group possessing more than the average ability. From an educational standpoint the queries demanded a higher order of intelligence than is represented in a cross section of the female mind of the country, hence it is not surprising to find that 66.9 per cent. of the answers came from graduates of colleges or universities. Thirty per cent. of the answers came from women between the ages of 28 and 33 years, though the age variations extended from 21 years to 83.

Had one asked previous to the beginning of the study, from what type of women most of the replies would have emanated, one would have been tempted to suggest that neurotic and unhappy women would have rejoiced in the opportunity to unburden themselves and thus achieve temporary relief in relating their experiences. The facts did not justify this pessimistic attitude. According to their own statements, approximately 74 per cent. stated that their health up to marriage was good or better, while 16.3 per cent. said that their health was fair, and, furthermore, 63 per cent. admitted that their health after marriage was the same as before, while 19 per cent. testified that their health was better than before marriage, as compared with 14.4 per cent. who regarded their health as worse than before marriage. Thus it is patent that the highly intelligent group that reported did not partake of the nature of unhappy, neurotic, disgruntled malcontents whose answers were dictated by any ulterior desire to escape discomfort or to warn others to avoid matrimony by reason of their experiences.

Some importance must be attached to the experience of the individuals in the work of the world. Approximately 59 per cent. of the women had been gainfully employed before marriage, while, after marriage, only 23.5 per cent. were in gainful employment outside the home. These figures are not evidences of economic status tho they may

reflect the increase in economic freedom which woman has attained. Employment after marriage no longer can be construed to be the result of the inability of the husband to give adequate support, because in any group it may represent the personal preference of the woman to continue her active interests or to maintain her economic independence.

Health and Happiness.—From a public health standpoint it is interesting to consider the statements of the writers with reference to their own happiness. Fully 87 per cent. attest happiness in marriage. Incidentally, this figure for happiness will bear comparison with such figures as can be derived from a study of the divorce and desertion rates which naturally are exceedingly incomplete and inadequate evidences of an unhappiness rate. The general divorce rate, even tho an inaccurate figure, is placed at about 8 per cent. of all marriages. Among the thousand women the divorce rate was only one-half of one per cent. The fact that only 4.4 per cent. of the women answering the questions stated themselves to be unhappy is reassuring.

The real worth of a study of this character is to be found in the analysis of the elements entering into ill health or unhappiness insofar as marriage is responsible for their development. It is patent that the study of a group of women so high above the general average of the feminine population can give comparatively little data generally applicable to all women. The conditions of education, the contacts of employment, the independence of opinion, the willingness to participate in a study of this character all serve to isolate these thousand women as unusual. Nor is it unfair

to believe that their capabilities of adjustment to married life are on a higher plane than those who have not had their advantages. It is probable, likewise, that their mental status gave them a higher degree of protection in the matter of mating, and therefore lessened the likelihood of their health being undermined by reason of physically poor matings.

One might even ask the question whether the high rate of happiness was in any way related to the low birth rate within the group, but this question is unfair because thus far there has been no correlation worked out between the reporting of happiness or unhappiness and the number of children living or dead. Many of the women are sufficiently young to make it certain that the full complement of children has not been secured, and in consequence the present average of 1.77 children per woman is not to be considered as the potential child-bearing index of the women in the group.

Whatever makes for familial happiness promotes social welfare and incidentally conduces to a higher standard of communal health. The health of families as a unit possesses more than a fictitious value and there are distinct advantages in recognizing that the health and happiness of families are so interwoven that both must be considered in the management of their general problems. The physician is thoroughly cognizant of the meaning of happy families in his ordinary routine of caring for the sick and endeavoring to protect and conserve the well.

The Mental Examination of School Children.—Physical examination of school children has been accepted as a necessary procedure. Communities, in general, have

more or less sought to establish the machinery necessary for its proper control. There has been some difficulty in the matter of arranging for examinations in rural sections, but these are being attempted thru the medium of State departments of health at the request of community school trustees.

The weakness in the scheme of medical inspection has been along the line of securing remedial action for those found physically defective. This particular problem is less noted in large cities than in sparsely populated communities; and here again State aided clinics of an itinerant nature are attempting to atone for any shortcomings that may exist in rural sections.

At the recent meeting of the National Educational Association considerable emphasis was placed upon the importance of the mental examination of school children at the time of their entrance. At various times voices in the wilderness have been heard shouting for this educational reform. Common sense observation has made it plain that chronological age is an inadequate guide for school classification. The physiologic and psychologic status of the youngsters is of far greater significance than the number of years of their physical existence. The mental hygiene movement, supplemented by the experiences in mental testing of soldiers, has brought to light the weaknesses of a graduation for educational purposes that takes no cognizance of educational potentials. Certainly the very foundation of educational adjustment in a school system depends upon the mental accomplishments of the child at the time of entrance, while his probable rate of progress is suggested by his intelligence quotient. It is not necessary to believe in the absolute value of mental tests in order to understand that a guiding approximate knowledge

of mental power is of far greater service than complete ignorance of mental abilities.

It scarcely seems necessary to point out that a mental examination should be a fundamental part of educational service. It is important for the teacher, the parent, and the child, not to mention the community, to understand as early as possible whether a child is of average mentality, dull normal, or exceedingly bright. There is no difficulty in determining by contrast the imbecile from the precocious child of six years of age, but there is considerable problem in recognizing the dull normal, the moron, and the high-grade imbecile without supplementary psychologic evidence. In fairness, therefore, to the children, the teachers, and the taxpayers there should be an investigation to determine the individual mentalities that are to be placed in the educational hopper. There must be an assortment of the grades of minds to be cultivated. There must be school gradations arranged to meet the educational demands of the different types of minds that present themselves.

It is patent that mental examinations are pedagogically sound and advantageous. Properly utilized they would facilitate the rapid progress of bright children thru schools, lessen the number of repeaters in a grade, provide for the slower but finally successful progress thru the school of those whose mental ability is sluggish and permit the classification of those whose limitations require special educational methods in ungraded classes.

Mental ability is not equal in all persons; nor is there any particular relation between mental power and chronology. For this reason the chronological classification of children is to be discouraged, and in

its place there should be established a system of educational training and discipline founded upon an appreciation of mental and physical health. It may be urged that this is a costly suggestion as physical examinations can be made rapidly, while psychological tests can only be given slowly. This is not wholly true as only a small percentage of children will require individualized mental examinations, and the status of the large majority can be adequately determined for practical purposes by means of group tests. It is admitted that considerable work along this line is still required; nevertheless, the careful development of group tests for elementary schools will be accomplished more rapidly when the demand for their use is stimulated by the desire of educational systems to employ them.

From the standpoint of promoting the welfare of their own children, physicians should be the first to recognize the importance of mental examinations. They should be leaders in their communities in emphasizing their necessity, their pedagogic, and hygienic value, their simplicity and their eminent practicality. For the improvement of parental understanding of their children, for the increase of cooperation of parents with schools, for the relief of teachers from unnecessary burdens, and for the protection of the peace and progress of children, mental examinations are as essential as physical examinations.

The Truth About Lye.—The frequency with which injuries occur from the unintentional or accidental swallowing of caustic alkalies is probably not great. The fact that Chevalier Jackson had seven chil-

dren at one time under his care for cicatricial stenosis of the esophagus caused by swallowing commercial preparations of lye indicates the need of further protecting the public against the sale of these commodities. (*Journal of American Medical Association*, July 9, 1921.)

Dismissing the very moderate cases that are not followed by deformity or death, the fact remains that powerful corrosive poisons are purchasable at the corner grocery for use in the kitchen, with far less warning as to their danger than is demanded for numerous types of medicines whose use is less dangerous. Dr. Jackson states that "Efforts at remedial legislation have met opposition from manufacturers." If this statement be true, it does not absolve legislators from responsibility.

Protection of children in the home is certainly a parental responsibility and common sense would dictate that lye and similar poisons be so placed as to be out of reach of youthful hands. This sounds like simple advice, but a knowledge of home conditions and the investigatory spirit of children emphasizes the difficulty of attaining protection in this manner. In addition, it is probably within the truth to state that the majority of persons using lye are unaware of its highly poisonous qualities and the horrible results of its accidental ingestion.

Caustic alkalies possess a distinct place in home sanitation and there is little reason to believe that manufacturers need fear a reduction in its use by reason of a poison label that each can should bear as a warning of the dangerous nature of its contents.

That any children are deprived of the maximum protection because of a failure of mothers to realize the corrosive and poisonous nature of lye is sufficient reason for securing legislation that will demand

the affixation of the well-known skull and cross bones, indicative of danger. The interests of manufacturers scarcely merit consideration in the light of the distress, suffering and death of children from a needless and preventable cause. One recognizes that children cannot read the labels, but at least the community will have done its part in stressing the danger to the mothers of the land, and this will stimulate them to a better understanding of the hazards of caustic alkalies.

The word "poison" should be conspicuously printed upon every can of lye or any other poisonous cleansing agent of household value, regardless of its nature. It is only fair that the public should be made aware of the dangerously poisonous character of many of the commodities which it uses so casually. Knowledge of the existence of danger in itself constitutes a moderate degree of protection against it.

Tuberculosis Mortality.—Various conjectures were made as to the effect of war upon tuberculosis mortality and numerous fears were expressed regarding the influence of the influenza epidemic upon the death rate from pulmonary diseases after the decline of the epidemic. It is still too early for final judgment, but there is considerable significance in the study of the mortality rate of pulmonary tuberculosis from 1914 to 1920, as exhibited in figures appearing in *Public Health Reports*, May 27, 1921. While the incompleteness of the data for 1919 to 1920 interferes somewhat with the detailed analysis of statistics, there is a definite picture of a more or less marked rise in mortality during the period of the war with a definite drop dur-

ing 1919 and 1920. The figures of Massachusetts clearly demonstrate that, during the months in which influenza was epidemic, the tuberculosis death rate rose in a very abnormal manner and this phenomenon is duplicated in the experience of England and Wales, as well as by the general comparative data from the Death Registration Area of the United States, as noted in the comparison of the monthly tuberculosis mortality rates during 1917 and 1918.

The course of mortality during the period of 1914 to 1920 is briefly described as follows:

"(1) The more or less steady decline prior to the war was interrupted by a definite rise, which was widespread and lasted thru 1918, followed by a marked decline in 1919 and 1920. (2) The high rate for 1918 apparently was due entirely to the two waves of epidemic influenza, and the rate for 1920 was probably somewhat increased by the 1920 epidemic influenza wave. Presumably many tuberculous persons were carried off by the influenza epidemic, and a part of the low tuberculosis rate in 1919 and 1920 reasonably may be ascribed to the earlier removal of persons who would have died in these two years. (3) Roughly discounting, however, the effect of the influenza epidemic, the existence of an unusual wave of mortality from pulmonary tuberculosis is still clearly shown, beginning in 1916, reaching its crest in 1917, and declining in 1918, 1919 and 1920."

The actual cause of the rise in the mortality rate from pulmonary tuberculosis in 1916 and 1917 is undetermined. Whether it was influenced by economic conditions, intercurrent epidemic diseases, occupational stress, or similar effective devitalizing agencies is problematical. In considering the gradual decrease of tuberculosis mortality it is, however, interesting to note variations of this character and to inter-

pret them as wisely as is possible, after due correlations have been made to the numerous dominant co-factors influencing mortality.

From the standpoint of public health it is satisfactory to note that the general trend of mortality from this disease continues downward. Inasmuch as the greatest incidence and seriousness of the disease lies during the ages of 20 to 45, there is a marked gain in the industrial efficiency as measured in the health of the workers.

For the most part, the average length of life has been increased by the diminution of mortality rates during infancy. A greater gain will have been made by a reduction of tuberculosis mortality during the ages of maximum industrial activity. There is every reason to believe that despite war and influenza there will not be measurable in the impetus that which has been gained in tuberculosis control. The cumulative effect of well-directed effort cannot be nullified easily. There may be occasional spurts upward due to unusual causes affecting large numbers of the population, but only catastrophic elements can seriously alter the marked downward course of the mortality rate. The human element has achieved power for controlling the disease during its incipency and herein lies the greatest single beneficial factor in decreasing tuberculosis mortality, aside from the potential prevention of the initial infection.

Orphans and Dietetics.—In *The Nation* of June 29 appears a challenge to medical ethics. Under the title "Orphans as Guinea Pigs," Konrad Bercovici has described in detail certain well-known experiments upon children in homes or asylums,

that have enriched our knowledge concerning the cause and treatment of scurvy and rickets.

The point is properly made that experimentation on human beings should be limited to volunteers, or to such children as may be utilized with parental consent. The types of diseases studied have their greatest frequency during infancy, and it is patent that experimentation upon adults would be of minor importance. This, therefore, cannot serve as a justification for dietetic tests upon children too young to give consent or from whom, apparently, consent cannot be secured because of the death of or abandonment by the parents. The writer recognizes the value of the human experiments. He does not indulge in any personalities concerning the physicians carrying on the dietetic experimentations. He wastes no adjectives in describing the institutions. In his words "If there is any indictment to be drawn from this presentation of facts, it is rather against the medical profession as a whole which has apparently acquiesced without a comment or criticism in the revelation of such experimentation on children as has here been shown." In his judgment "The whole business is thoroly wrong and reprehensible."

In a sense, the commitment of a child to an institution means the assumption by the State, which charters the institutions, of a responsibility *in loco parentis*. The utilization of public charges in the interest of humanity without endangering their lives and welfare, without torturing, without threatening their future has, nevertheless, been regarded as cruelty and maliciousness. It is not meant to assert that the end justifies the means, nor that wholesale experimentation is practiced or encouraged in institutions. The medical profession would

scarcely recognize the variation of diet as a phase of vivisection.

By an extension of meaning, vivisection has come to mean experimentation by means of drugs and foreign material introduced into the human body. In the experiments with scurvy and rickets, foods only were employed and in just such a manner as would represent a variation in feeding as is today practiced in many households where knowledge is lacking concerning the etiology of rickets and scurvy. It is true that there was a distinct purpose in the minds of those conducting the research to determine all the forms of standard diets which were responsible for the occurrence of scurvy and rickets, and the diseases did arise in consequence of some of the test diets given them. Careful and constant observation with a view to determining the earliest possible appearance of the disease served to protect the infants, and corrective feeding promptly relieved the conditions, which are very amenable to control.

It is true that the history of these two diseases reveal no similar history of experimentation, and that is one of the reasons why scurvy and rickets had not been placed safely in the category of preventable diseases. As usually is now the case for the purpose of scientific control and investigation, it is necessary for children to be under constant observation under conditions which will enable the observer to account for all factors which might possibly enter into the causation of the biologic condition being studied. Under these circumstances the experiments of Hess and others are not to be regarded as indefensible. There is no absolutely certain method of determining dietetic inadequacies of human beings by animal experimentations, as animals do not have a taste for the variety of foods as

utilized in human nature. Some of the principles may be derived from animal experimentation and at times complete results may be achieved, but it is doubtful whether the story of deficiency diseases will ever be completed without some measure of experimentation upon human beings.

Uncertainty of Food Reactions in Children.

—In a sense, every attempt at feeding a child possesses an experimental nature. The idiosyncrasies of the child are not known, the specific chemical and biologic characteristics of the foods are not always determined or the methods of administration may or may not be properly adjusted for the child's digestive power. Assuming that it were possible to collate all the food facts from a group of individual feeding experiments in large families, it would still be impossible to draw any scientific deduction. In a sense, there is no consent of the parent or the child for these experiments, tho of course the physician is requested to care for the feeding of the child. If rickets or scurvy should develop under these individualized diets there would not be an accusation of experimentation. The physician could not be regarded as at fault because of the numerous elements beyond his control; and, altho the discomfort of the child might be considerable, the prompt correction of the feeding difficulty would result in freeing the infant from potential disabilities.

The controlled feeding experiment in the institution has made available an amount of information that will safeguard individual children thruout the world against the development of rickets and scurvy, and, in time, probably will lead to their elimination. Under these circumstances the medical profession cannot condemn, in the manner that

Mr. Bercovici suggests it should, a very carefully controlled dietetic experiment, deprived of danger to the well-being of the child. Furthermore, it would regard the group dietetic study of the wards of the State, under the finest protective conditions, as having made a large return to the community for the care devoted to them. The state of being an orphan has many disadvantages, and the dictates of humanity demand that these be not added to by thoughtlessness, indifference, or neglect. There can be no accusation of these delinquencies on the part of those who are endeavoring to safeguard all infants, whether orphans or not, thru a controlled study of natural and constant practiced dietetic variations administered to infants and children placed under their scientific care as the wards of the State thru the medium of institutions. Incidentally, it may be remarked that the institution under discussion is rightfully proud of what is probably the lowest mortality rate for infants and children among the institutions devoted to the care of orphans.

The scientific utility of the procedure may be regarded as its justification, even tho to some it may not be regarded as a complete defense.

The Social Problems of Repopulation.—

The problems of rehabilitating war devastated nations is scarcely appreciated in the United States whose population suffered comparatively little loss as the result of warfare. France, for example, has to contend against a decreased male population as well as habits and customs which made its birth rate practically stationary in 1914. Since the Armistice there has been a slight increase in the birth rate of France, for

various reasons that are readily understandable.

Dr. Clotilde Mulon has outlined a plan designed to offset the low birth rate and to increase the general hygienic, moral and economic status of an increased population. One tremendous discouraging factor in France exists in the number of abortions, which is estimated at 500,000 annually. To attack this element that undermines national growth, attention must be directed at a large number of interlocking elements that serve as the rationalized explanation for abortions. Dr. Mulon suggests the valuelessness of directly repressive measures and advocates constructive plans, which, as a minimum, involve the following measures: "(1) The pregnant woman should not be taken from her livelihood. (2) Fatigue should be spared to her to the utmost. (3) Long enough rest shall be allowed for the confinement, with a sufficient monetary compensation. (4) She shall be helped, respected, and protected after her confinement and be able worthily to bring up her child herself. (5) In case of widowhood or desertion, the community shall help her to raise her family."

The social aspects of the re-population problem is well exemplified in the program designed to decrease the number of still births. For this purpose there are advocated many rules and regulations applying to women employed in industry during pregnancy and lactation. There is a demand for shorter hours, improved factory inspection and sanitation, and a definite denial of heavy labor and night work to women.

As a stimulus to child-bearing and child-rearing an alteration in taxation plans is projected, particularly in the matter of inheritance taxes. Under the law advocated families with four children would be

exempted; with three children one-quarter of the estate would go to the State; with two children one-half would go to the State; and with one child three-quarters would go to the State; childlessness would result in the entire estate reverting to the State. Whether this plan would have the desired result, it is difficult to determine. Certainly there is much to be said in favor of the plan on the general grounds of national protection, but its efficacy in securing birth release is open to question because of the difficulties and costliness involved in the bearing and caring for children for a number of years before they become family assets.

There is a tendency thruout the world to recognize the responsibility of the State for promoting child welfare on the grounds of State interest. It is not unusual, therefore, to have the fundamental problem of the birth rate receive especial attention. The development of programs to promote birth rates is biologically valuable insofar as success is attended by births in families whose stock is advantageous. Insofar as abortions and still births are due to syphilis, it is questionable whether mere economic stimuli will suffice to control this dysgenic phenomenon. Evidence is already available that by pre-natal care both of these rates may be decreased with a marked gain in the birth rate and an increased margin of safety for the mothers. The economic problems that are involved can only be solved by State aid in countries where familial suffering has reduced so many people to the border-line of poverty. Certainly the efforts of France to rehabilitate its population and to increase it will afford an opportunity for observers to study the effectiveness of various types of measures in advancing the birth rate.

Inadequate Knowledge and Irresponsibility in Organotherapy.—Blind over-enthusiasm running into unscientific fanaticism is all too apt to become charlatanism. In the history of medicine a relatively insignificant discovery frequently turns out to be of major importance. Similarly, loud heralded advances in medical science are often discovered later to be insignificant, useless, or untrue. In practically every field of practical import, such as therapeutics, it requires but little stimulation of the imagination to secure countless followers of any propaganda. It is not beyond belief that if Dr. H. Simpleton Jones reported a series of five cases of caisson disease successfully treated by the administration of ichthyalbumens derived from the pectoral fins of red herrings, there would soon appear in the current medical literature a reasonable number of corroborative clinical experiences. The world is not so far removed from the days of Perkins' tractors or the use of tigers' teeth to laugh contemptuously over the primitive medication of the Indian medicine man, the herb doctor, or the therapy of Chinese medicine. The great problem for the medical practitioner today is to distinguish between the wholly true, the partially true, and the untrue among the welter of statements that assail his eyes and ears.

Harvey Cushing, in a most forceful manner, has directed attention to the inadequacy of much of our knowledge concerning endocrine disorders. *Journal of the American Medical Association*, June 18, 1921. As he properly comments "The imagination is a desirable quality in research as well as in exploration, it must be disciplined, and even so cannot be drawn upon in making out official reports." If this injunction were followed, the literature

of internal secretions would undergo considerable modification. Save from the standpoint of research or pharmacology it is doubtful whether there is sufficient definitely determined knowledge concerning glands of internal secretion to justify anyone to set himself up as a specialist in endocrinology. Whether the subject is considered from the standpoint of physiology, chemistry, psychology or clinical medicine there is much that needs to be learned concerning the background of disorders of the thyroid gland, the pituitary gland, the adrenals, or the gonads. Admitting the splendid facts of thyroid and parathyroid therapy insofar as they relate to myxedema, cretinism or tetany, one may properly ask with Cushing "Yet how little do we really know of the background of thyroid disorders and their relation to the emotions and the sympathetic nervous system and their pluriglandular interplay?" What is actually proven concerning the relation of the pituitary gland to growth and nutrition, despite our knowledge concerning acromegaly? With all due respect to the study of epinephrin, the biologic studies of shock and blood-pressure, the demonstration of basal metabolism, how much more need we to know to insure scientific therapy of the disorders of the adrenal glands?

What a wide diversity of opinion often exists in statements of clinical findings. Cushing, for example, states that there is very little evidence that glandular extracts have any action when given by mouth, despite which most clinical reports from other equally reliable investigators attesting well-established benefits, are based upon the oral administration of gland substance. Researches properly controlled will build up endocrinology, whereas the reckless and

indiscriminate use of potent gland extracts by persons untrained in the correct methods of administration and possibly lacking the necessary scientific knowledge and experience to recognize their definite indications, will tend to retard the development of endocrinology. The cumulative effect of false doctrine disseminated thru reports from superficial observers is calculated to attribute values and effects that cannot stand the test of scientific analysis. The important discoveries that have been made must be freed from the incubus of hasty and premature conclusions. The pseudo-scientific statements made by gynecologists, rhinologists, urologists and other specialists must be accepted with an unusually large pinch of salt.

There is moreover, an inherent danger in the present unwise tendency toward the indiscriminate administration of glandular extracts whose latent potentials are not understood. The field of experimental medicine is large, but this does not require that every physician shall undertake to make his practice a laboratory in which he shall use chemicals, the character and power of which are practically unknown to him.

Dr. Cushing's conservative attitude, as manifest in this presidential address before the Association for the Study of Internal Secretions, deserves commendation. He has placed his finger upon a distinct sore that is troubling medicine. His final paragraph affords considerable reason for reflection: "Endocrinology as a special subject, if it wishes to survive and come to be a factor in medical practice, must look out for the character of its clinical advance agents less it come to be utterly discredited. We have nothing as yet, in the treatment of pituitary insufficiency, comparable to what Victor Horsley and his pupil Murray

accomplished for myxedema, and we are still further behind in the case of the other glands. Indeed, no Magellan or Balboa for ductless gland therapeutics in general has yet appeared, tho let us hope he may be on the way. Meanwhile, there is many an imitator of Cortez or Pizarro to trade on the superstitious awe of the natives, who will soon come to be fully disillusioned."

There can be no question, but that organotherapy holds much of far-reaching importance in the rational treatment of many diseases that have hitherto been beyond the reach of ordinary therapeutic measures. In order to separate the "wheat from the chaff", the true from the untrue, the problems of gland dysfunction need to be approached in a truly scientific spirit. We know enough to realize not only the vastness and importance of the subject but some of its dangers. It behooves every one who recognizes its scientific possibilities and wishes to see organotherapy placed on a sound foundation to discourage the indiscriminate and careless use of gland products, without adequate knowledge of the underlying pathologic conditions.

IT TAKES GREAT STRENGTH.

"It takes great strength to bring your life up square

With your accepted thought and hold it there;
Resisting the inertia that drags back
From new attempts to the old habit's track.
It is so easy to drift back, to sink;
So hard to live abreast of what you think!

It takes great strength to live where you belong.

When other people think that you are wrong;
People you love, and who love you, and whose
Approval is a pleasure you would choose.

To bear this pressure and succeed at length
In living your belief—well, it takes strength
And courage too."

—Charlotte Perkins Stetson.



The Russian Famine.—America is to play an important rôle in relieving the disastrous Russian famine, a disaster which, even should relief prove exceptionally successful, will nevertheless be a most serious and costly one to Russia and perhaps to the world. In responding to humanitarian motives, America is not only fulfilling a duty to humanity, but to herself, a duty she owed because in no small measure perhaps she, along with other nations, has been indirectly (perhaps more directly than we think) responsible for the disaster. The famine may be due largely to Soviet incompetence, but the incompetence of influential bodies in this country which have inspired our attitude toward the Revolution, bodies whose interests were financial as much as political, has been equally as great. It is a notable fact that the soundest advice on the most effective way to eliminate the extremists in Russia has come not from our successful men, but from our failures, failures by comparison, men with no claim to success in a worldly way, but with a breadth of view in international matters which owes its breadth largely to the fact that they are disinterested and that their love of truth and fair play is not tempered by any consideration of personal gain. Failures, who are, however, exceedingly shrewd observers of life, have often said that the talent for making money is a talent *à part*, existing by itself and not seldom accompanied by a mental calibre that approaches imbecility. However debatable this contention may be, it is, nevertheless, perfectly illustrated in one very striking instance: the attitude of bankers and capitalists (and their numerous and no less influential satellites) thruout the world. When the Russian Revolution broke out and when it succeeded in holding its own against the combine pressure of neighboring powers and its internal enemies, the bankers everywhere declared their attitude in no dubious terms. The revolution, they

said, was the violent work of a minority and could not survive. The suppressed majority, the majority which they seemed for once not only to respect but to venerate, would ultimately assert itself, would inevitably prevail. In this opinion they were at one with the liberals, the failures. But this was the only point of contact between them. The liberals, believing in the ultimate triumph of sanity, wanted the Russian people to work out their own destiny unmolested by foreign muddlers. The bankers, in the same breath that they proclaimed their faith in the triumph of democratic majorities, urged their governments to attack and crush the Soviets. In urging this visionless and mischievous policy, they succeeded only in strengthening the hold of the Soviets and compromising the cause of the majority which they protested they wanted to help. If communism has survived as long as it has in Russia, it is due to the money-makers' incompetent muddling as much as to any one other element.

It is a fact demonstrated by history that any violent change brought about by an unpopular minority cannot survive long, and the rôle of the intelligent observer is to keep aloof and let it die by its own hand. But the world bankers, in the instance of Russia, at once proceeded to expose their mental incapacity for anything but making money by giving the minority in Russia the opportunity to perpetuate their violence. The opposition of foreign bankers and investors, their united and venomous attitude toward the revolution, their blockades and boycotts, inspired the inarticulate majority in Russia, the peasants, with a fear which made them accept what appeared to them the lesser danger of their own violent compatriots. Several times, when the Soviet power seemed to be shaken, they were strengthened by pointing out the greediness of foreign capitalists waiting at the border to rush in and take possession of the country the moment the Soviets disappeared. Their appeal, whatever its merit, had the effect of weakening internal opposition and strengthening their hold. If the bankers had stood by and permitted communism to work out its own problems (its own suicide, as they claimed), if their acts had been as sound as their words, the Russian Revolution might have died many months

ago. And, if it is being modified now, if Lenin and his colleagues are beginning to make concessions which seem to shear them of some of their power, concessions allowing the reintroduction of "capitalistic" methods and institutions, banks, private property, etc., it is in spite of and not because of the visionless opposition of foreign bankers. These concessions were bound to come. They would have come sooner and Bolshevism might have been either ended or well on its decline by now if the counsel of the liberals, the failures, had been heeded. Their attitude was the only logical and legal attitude toward the revolution. And it appears now that their attitude, had it been adopted officially by all governments, would have been the most effective in bringing about an expression of the will of the majority in Russia, which, by all reports, is unfavorable to communism.

Morality and the Balance of Sex.—

Vaudeville has not failed to make the most of the now well-known fact that there is a heavy surplus of women over men throughout Europe. The jokesters have done justice in their own facetious fashion to the circumstance that there 2,000,000 women in England alone and 10,000,000 women in all Europe who are destined to remain mateless because there are not enough men to go round. But science, strangely enough, has remained remarkably indifferent to the phenomenon—a phenomenon which is pregnant with grave consequences to morality and to civilization unless it is met intelligently and adequately. The situation is (and perhaps rightly) a matter for quip and jest, but it is also (and much more rightly and urgently) a matter for the deep concern of sociologists the world over. How grave is the problem was well outlined in a statement made recently by Professor Patrick Geddes, the eminent English sociologist. Professor Geddes touched briefly on the subject and only sketched the many aspects of the situation, but his remarks will make many stop to reflect, where before they stopped only to smile.

"Civilization," he said, "is high or low, according as women are at a premium or at a discount. The war has left Europe with at least 10,000,000 maidens then grow-

ing up who must now bide mateless; hence a coming discount of women is imminently threatened and is, indeed, in accelerating progress. This fact constitutes a menace to society, the gravity of which is not sufficiently realized. If steps are not taken to give these women a special education and training to meet their new conditions of life, to replace the failure of their usual function in society, a period of wholesale demoralization may set in which will shake our civilization to its foundations. It needs a movement in every land, a movement no less intense than that of recent years for women's suffrage. It needs, too, to be far more deeply and fully organized. Yet, with all their good ideas and intentions, our educational bodies and conferences have failed to grasp the significance of the situation. Only here and there are a few scattered women grasping it, but with insufficient means. Yet here is an opportunity as unparalleled as is the danger. Hence, what scope there is for vital and educational initiative, for saintly and heroic founders, for new sisterhoods of social service! Our greatest hope at present is from America, where woman is held in higher respect than anywhere else. Women are not so overwhelmingly in the majority there. They are thus able to choose their men; all the choice is not left to the men. This is the problem. It is a serious and urgent one. Among all the criteria of civilization, none goes deeper than that of the status of woman."

The important point made in Professor Geddes' statement is the fact that the balance of the sexes is the most dominant factor in the problem of morality. How much this is so is shown in the depreciation in European morality since the war. The number of women being vastly superior to that of men, the women are compelled to accept a standard lower than the one that has been precious to their sex for so many generations. In England and in France, the millions of women who cannot find husbands because there are none for them, will, succumbing to the pressure of the need of love and companionship, be willing to compromise with their ideals and accept relationships which will disorganize, have already in fact disorganized, the standard of morality in these countries. There is no use in winking at this fact or

try to pretend it does not exist. It does and it should be met. Of course, in this country, where the balance of the sexes has not been greatly disturbed, moral conditions are not threatened. Our women are still able to make a free choice and can still compel the men to accept their own superior standard of morals as the price of their submission. But in Europe the situation is quite different, and slowly but surely a precedent is coming to be tacitly established for an unrecognized but practically effectual form of polygamy in which a man may have a wife and what in the old days would have been regarded as a concubine. Our modern marriage arrangements are not sufficiently elastic to meet this newest situation, and circumstances are forcing them to be met in the best way possible, for it would be unnatural and visionless to expect that 10,000,000 women will be content to embrace a mode of living which will deprive them of the fulfilment of their most necessary function. They will embrace the form without the content, the function without its racial reward, and while they will find a temporary solution, society will have on its hands a permanent problem. It is for this reason that one hears much talk in Europe, talk which arouses smiles in America, but which evokes serious consideration abroad, of a possible solution in the form of polygamy. It is questionable whether polygamy, recognized by the state, could be worse than the present situation, which is unrecognized polygamy with the necessary ill effects of secret disobedience to moral laws. The effect is a general relaxation of the moral code and a general disturbance of spiritual values. Nothing could be more dangerous to the welfare of a community and the soundness of civilization. And educators and reformers have no more pressing task before them than the immediate and frank facing of this problem.

Mental Cures.—Only a few years ago any practitioner practicing or even giving his approval to what was then called inadequately a "mental cure" was likely to be denounced by both public and profession as a quack. Today, with the progress of the past few years in successful experiments with psychoanalytic and psychothera-

peutic methods, these methods have come to win not only the respect but often the approval of leaders in the profession, however anxious they may be to qualify their approval. But a recent event, the session of the British Medical Association at Newcastle, has put definitely the stamp of official medical approval on the new methods, a statement issued by that organization at the close of its conference giving complete recognition to the new school. This is the first time, in England at least, that the new methods have been endorsed by representative leaders in the profession. The experts, however, carefully defined the necessary limitations, limitations which even the exponents of the new school will not find objectionable. They emphasized the necessity of warning the public against the abuses to which the new methods are subject, especially warning them against enthusiastic but unqualified practitioners. Dr. Bernard Hollander, whose book on hypnotism and mental suggestion published eleven years ago created a sensation, approved the medical association's decision. The war, he said, had done much to bring about this altered attitude because the new methods had justified themselves under unusual circumstances, not only at the battlefield, but at home and were now accepted as an effective treatment of maladies hitherto inaccessible to time-honored methods. The only danger, he added, was in the failure to recognize values in the new procedure. "Thousands of lay practitioners have arisen who rely on mental suggestion but do not treat the body at all, altho mental conditions have been brought about often by something wrong with the physical mechanism which must be dealt with before suggestion can have any chance of success. There are many who practice psychoanalysis in a way that exaggerates certain instincts very dangerously. Moreover, people are led to disclose private personal affairs which a qualified doctor might be trusted not to divulge but against which the patient has no protection if they are divulged and made use of by an unscrupulous practitioner." Dr. Geoffrey Rhodes, joint editor of *Health and the Mind*, urged the Association to ask the medical profession to take immediate steps to educate the public regarding treatment by suggestion, because "borderland cases should always be under

the supervision of a properly qualified medical man. Unhappiness," he added, "plays an alarming part in mental disease and melancholia cases. Many people suffering from disordered minds might admit they were borderland cases but would never acknowledge that they were mental cases. An ideal sanatorium would be a place where the moral and ethical side of life was cultivated along with medical treatment." Dr. Helen Boyle made an interesting contribution to the session by asking that beds be established in hospitals for unhappy persons, maintaining that it was just as logical to have beds for persons who were unhappy as for those with broken limbs. The decision of the British organization is a step in the right direction. Instead of an indifferent disapproval of the new methods which subjects patients to incompetent individuals, it is best to leave these methods in the hands of recognized and capable members of the profession. That is the choice they had and they made the right one.

A Notable Article Starting Next Month.—

The notable contributions that Dr. George M. Gould, the Founder of AMERICAN MEDICINE, has made to the study of eye strain, have gone far not only to lighten the burden of physical misery that the human family formerly had to bear, but have helped immeasurably to increase the efficiency of medical men in coping with many obscure ailments of reflex origin. It is with great satisfaction, therefore, that we are able to announce the beginning of an article on Ametropia by Dr. Gould in our September issue which will cover the whole subject of defective vision due to refractive errors as it never has been covered before. Every medical man who realizes the possible influence of uncorrected errors of refraction on the nervous system will find Dr. Gould's article of the utmost service in clearing up many difficult cases, while to those who give any special attention to diseases of the eye, it will prove a mine of valuable material. No physician in America is better qualified to write on this important subject than Dr. Gould, and we count ourselves fortunate indeed in being able to present to our readers a paper of such exceptional value.

The usual contribution on faulty refraction is dry and uninteresting, but Dr. Gould discusses the topic so clearly and comprehensively, and with such regard to the clinical problems involved, that there is not an earnest, thoughtful physician who will not read this forthcoming article with the utmost pleasure, as well as profit.

The foregoing is only one of the many good things AMERICAN MEDICINE has in store for its readers during the coming months.

Our Cover Picture—Dr. John Collins Warren.—In view of the honors recently paid to Dr. Morton, discoverer of ether anesthesia, and the fund being raised by the National anesthesia organization under the direction of its efficient secretary, Dr. F. H. McMechan, to provide a bust of Morton for the Hall of Fame, it is very appropriate that we print a picture of the surgeon who was the first to make a practical demonstration of the efficiency of Morton's discovery.

John Collins Warren (1778-1856), of Boston, was the son of John Warren, the famous surgeon of Revolutionary days. He studied under Sir Astley Cooper and Dupuytren, and succeeded to his father's professorship in 1815. According to Garrison, "he was a pioneer in the excision of bones and joints, such as the hyoid (1804) and the elbow (1834), introduced the operation of staphylorrhaphy for fissure of the soft palate in 1828, and was the first in this country to operate for strangulated hernia. He was the founder of the Massachusetts General Hospital (1811) and of the Warren Museum, and he practically introduced ether anesthesia in surgery (1847). His principal work is his 'Surgical Observation on Tumors' (1837)."

Dr. Warren's face well indicates the type of man he was, and it is easy to understand the effect his words must have had that day in 1847 when he lifted his kindly, honest eyes, and with a voice reflecting the emotion he felt, said, "Gentlemen, this is no humbug."

It does not take a very vivid imagination to picture this great event, nor to sense the solemnity and significance of such an opinion when expressed by a man of the caliber of Dr. Warren.

When one stops to think, therefore, of what Morton's discovery has meant to modern surgery, can it be denied that this first operation under ether anesthesia marks a milestone on the highway of medical progress?

The Use of Coffee.—So many letters have been received protesting against many of the statements made in the article on coffee by Dr. E. F. Bowers in last month's issue (July), that we wish to take this occasion to repeat that the publication of an article in our pages does not mean that the views expressed are endorsed by this journal, or its editors. From its inception AMERICAN MEDICINE has been committed to the policy of denying to no reputable physician the unrestricted statement of his opinion on any subject. The only requirements have been that the statements made shall be honestly conceived, rationally expressed and free from any personal animus. That an author's views are contrary to those generally held, open to question, or to use a New England colloquialism, very "far fetched," will not bar an article from our pages. The true facts of any question are often brought out and definitely established by the presentation of what may actually be erroneous views or incorrect conclusions. In other words, a statement or conclusion may be so palpably wrong and ill-founded that the truth of the matter will become patent at once. Thus, even mistaken views and faulty deductions may serve a good purpose.

It is not necessary to state that an earnest effort is made to keep our pages free from errors of fact, but recognizing, as some one has said, that the rejected and supposedly mistaken opinions of today are the accepted views of tomorrow, and realizing their own limitations, the editors of AMERICAN MEDICINE, have consistently followed a liberal policy in accepting contributions from medical men of standing.

To speak specifically of Dr. Bowers' article on coffee, we do not hesitate to say that we do not agree with his conclusions. We do not believe that coffee used in any reasonable amount is harmful to the great majority of people. When taken to excess, or by certain individuals, it may occasionally have some undesired or harmful effect.

This same statement can be made of pure water, probably the least harmful substance that human beings take into their stomachs. But when employed as the average person does, as a pleasant, agreeable and mildly stimulating beverage, coffee meets a gustatory need that is common to the great majority of healthy people, with less harm or danger, and greater pleasure and benefit than any other liquid that can be so universally and routinely used.

This is not intended to refute Dr. Bowers' statements nor to offer any criticism of the convictions he holds or stand he has taken in respect to the use of coffee. Dr. Bowers is a well-known reputable physician who is entitled to entertain and express any views he believes to be right and proper on this or any other topic. Unquestionably he does not ask or expect his opinions to be accepted by his fellow physicians except to the extent that these conclusions appeal to their intelligence or agree with their personal experience.

In answer, then, to those who have written in relative to Dr. Bowers' article, we wish to repeat that—as with all other material published in *AMERICAN MEDICINE*—it was presented to our readers purely on its merits. It does not present the viewpoint of the editors, nor does the fact of its publication mean that the opinions expressed are endorsed by this journal.

Relative National Cancer Rates.—

Shannon, in a paper contributed to the *Boston Medical and Surgical Journal* (vol. clxxxiv, No. 7), supplements the work initiated by the American Society for the control of cancer. He compares the relative frequency of cancer of the breast in American and Japanese women. Among the former the death rate is 14.3, and in the later 1.8, and he advances an explanation of the difference by stating that the Japanese women bathe their skin with warm, or tepid water, which is fatal to protozoal organisms. This observation would be of value were it possible to claim that protozoa were a causative factor in the development of malignant formations. There are some who believe that this is

the case, while others dispute it, and the majority favor the latter belief. Meanwhile, many theories have been advanced in the attempt to explain the cause of the higher cancer mortality among women as compared with men. The problem, however, will probably remain unsolved until we know what cancer is. Hoffman, a few years ago, made an inquiry into the cancer rate in Europe. He found that the average mortality in 100,000 persons was 76.6. He was also able to show that in the different countries the death rate was almost proportionate to the percentage of the populations engaged in industrial occupations. In Denmark the deaths from cancer were 142.2; in Turkey 34.8. Taking Asia, he found the death rate in Ceylon was 5.6, and in Japan 60.2. Longstaff had already pointed out, in 1884, that some relationship seemed to exist between industrial prosperity and an increased incidence in cancer.

Legislation for Women and Children.

—In spite of temporary setbacks, says the editor of the *New York Medical Journal*, the realization that women as the mothers of the next generation require special protection in industry is being incorporated into law in an increasing number of states. The March issue of the *Monthly Labor Review* recounts a number of these instances. Recent legislation in New Jersey prohibits women from engaging in any industrial occupation for six weeks before and six weeks after childbirth; provides for an eight-hour day and a forty-eight hour week in industries now covered by the ten-hour law, and prohibits night work between the hours of ten p. m. and six a. m. Wyoming has passed an eight-hour law for women except domestic servants. In South Dakota the mothers' pension law has been liberalized to include nursing, medical and hospital care for needy and expectant mothers. Pennsylvania has created a department of public welfare which will have supervision over mothers' pensions, work for dependent and delinquent children, prisons and prison labor, and other activities. Strengthening of the child labor law is recorded in Colorado, New Mexico, Vermont and Wisconsin.



ORIGINAL ARTICLES

A NEW CONCEPTION OF MEDICAL EDUCATION AND MEDICAL PRACTICE.

BY

J. MADISON TAYLOR, A. B., M. D.,

Professor of Physical Therapeutics and Dietet-
ics, Medical Department, Temple University,
Philadelphia, Pa.

So radical has become the evolution in welfare measures, such as State Insurance, Compulsory Health Insurance or other mass demands for improvements in professional services, that changes would seem to be necessitated in the gradation of medical experts to accord with the altered character, scope and degree of the advice wanted.

Why not furnish graduated courses in medical teaching thru choice of subjects by electives after the fundamentals have been supplied; also a modification of scholastic or highly elaborated scientific training and to supply more of the practical?

The first impression made by the proposition of reducing a large proportion of medical practitioners to the position of employees of dominant organizations, "panel doctors," is revolting. Practical advantages may, however, evolve when the plans more nearly approach completion.

The subject is one of great magnitude and complexity, forming a promising outlook for useful modifications in methods. Differentiations must ultimately come about.

The sooner the actual conditions are faced and due provisions made, the safer and more suitable will become professional preparedness. Full and frank discussions should be encouraged. Something is to be said in favor of health insurance when suitably perfected. Experience teaches that urgent present and future needs must be considered.

Among the first topics to demand attention is a beneficent evolution in the teaching of medicine, a defining and preparing of candidates for medical confidence and improvements in departments of medical endeavor. Human divergencies in students should be reckoned with in taste, aptitudes, aims, ambitions and manifold other particulars.

Experience in social service teaches it is wasteful to struggle endlessly by the trial and error method. One should get a long perspective on sociologic problems, learn what conditions actually appear or are appearing and deal with them in advance. Ours is a democratic government, at least our avowed aims are to secure the greatest good for the greatest number, whose wants vary and each deserves to be supplied.

Mankind is in a perpetual flux, advancing in the main, but by no means steadily nor uniformly. Energy and growth forces tend to pause, progress, stop or retrogress. They progress irregularly at best, often

seeming to subside and alter for the worse.

Mankind seems, at the present time, to be in a state of cleavage between autocratic medievalism and the stirring demands of an enlightened proletarianism, some phases of which seem barbaric, others to be animalistic or worse. Man in this stage of evolution is essentially individualistic, for himself and his own first, the commonwealth fading rapidly thru exercise of the "inalienable right of private happiness." Why should the profession of medicine shut its eyes to the signs of the times? Why should it omit to adjust its habits, customs, automatisms, to meet new and compelling situations?

To be sure Internationalism is a long way off. Hundreds of generations must pass—unless all genetic signs fail—before man can hope to reach even the earlier enlightenments of a self-determination adequate to devise or construct instrumentalities capable of affording the greatest good to the greatest number. In modern times merit is arrogated by those who adhere strictly to the established, the institutions, to promises set up by hyper-optimistic advances.

Some of the better results of ancient trial and error methods deserve free play. Should not we, of the fellowship of medicine, purge our own borders of ancient hindering methods? Man's emancipation from dogmatic institutionalism is becoming sensed.

Is it necessary, or even desirable, that each and every medical worker shall undergo precisely the same kind, quality, extent and method of training? Rather may we not assume that in pursuance of the plans now presenting, we should continue to compel each and every candidate for license to practice the healing art, to learn by the

same system of intensive absorption of facts which, admirable as it may be to fit men of a more intellectual mould or endowments to rise to any height of scientific excellence, tends to leave a large residue merely puzzled, mentally cramped, ill-adapted to discharge the urgent duties required, to meet the practical needs of suffering humanity promptly and economically? It is all very well to insist that each student shall make use of his reasoning powers, whereby he must qualify to argue from particulars to generals and back again to exact conclusions.

Are there not a considerable proportion of students whose conclusions, or whose reactions to exigencies, would become far safer and more effective if they were trained to react to a well-devised but limited system of empirical doings, to make skilled use of rules governing a most difficult and complex enterprise? Enterprises are won in proportion as the working automatisms are prompt, efficient, practical, rather than by exegesis and ratiocination.

There are said to be about 140,000 physicians in the United States. There is the utmost diversity among individuals in the manner, scope and quality of their mental endowments as well as in their education, due to diversities of endowment, to early training, to accident, and the like variants in composition, despite the persistent efforts of the Council of Medical Education to insist on absolute uniformity. Would it not be wiser for this Council to recognize the pressure due to variations in qualities and meet the demand of on a basis of supply designed to satisfy, and not to coerce, each and every one to qualify at a maximum in science with too often a totally uncertain proportion of practical or motor (motoric) proficiency? Action precedes

thought; man does and then reflects; the protoplasmic urge first, then the automatism perform and later ratiocination.

The report of the Council goes on to say there is no scarcity of physicians, one to seven hundred and twenty people, as compared to one to fifteen hundred in Great Britain, and that the demand is for physicians in sparsely settled districts—a matter of distribution. The Council is making yet greater efforts in its coming survey of the kinds and qualities of medical education, greater pressure being exerted on the details of the teaching, with special reference to clinical instruction, the highest practicable under present conditions.

No comment is made in respect to any desirable forms of differentiations as to methods of teaching. No provision is made to meet variations in social demands, in ramifications as to diverse levels, conditions, circumstances. No recognition is made of the large diversities in individual characteristics, temperaments, especially in practical aptitudes.

Is it not wasteful, archaic, not to say stupid, to insist that each and every student shall pursue precisely the same subjects, presented in the same way? For another thing the medical student body, while a selected group, shows within their narrow periphery precisely similar individual variations in mental and physical endowments as do other selected groups. These variations are in respect to mental vision, to reasoning power, to capabilities of differentiation, to constructive imagination on the one hand and on the other to practical aptitudes, common sense, resourcefulness to making the most of what supplies can be had. To be sure a country doctor will find ample need for the highest possible qualifications and training, because he

"plays a lone hand" under a wide variety of exigencies. Everyone, however, knows, who has worked in this domain as I have, what a narrow range of clinical problems are offered.

Thus we may visualize the departments of medical education somewhat thus:

(1) The drug store type should be reckoned with as a necessity when specifically qualified and trained, raised to a position of advantage for rendering safe and efficient service within prescribed limitations; a pay dispensary, as is customary in England to meet walking cases, not merely to sell medicines as now is commonly done, but qualified to deal practically with minor surgical and internal exigencies—say two years of part-time studies, empirical and practical training along with experience in dispensary work.

(2) The more elaborated emergency physician, qualified for panel work, the more serious exigencies, to visit homes, to care for the average patient and, when in doubt, or where the problems exceed his training—which should be authoritatively specified—when puzzled, also in particularized emergencies, to call in consultants in conditions carefully specified. This would constitute the M. B. class, a fairly complete course to become a competent general practitioner, up to all ordinary practice—say a three years' course, both scholastic and dispensary. Here we would have supplied excellent country doctors and first-class panel doctors, licensed to assume charge of all ordinary clinical cases.

(3) The full M. D., a course similar to that now required of four years, yet a part of the fourth year to be spent as interne with experience in internal medicine, surgery, obstetrics and the major specialties.

For amply qualified men, full clinicians, courses similar to those now supplied, including the fundamental studies as in class one but of greater exactitude, more rigid examinations, greater demands being made on the student in powers of ratiocination, the mental process of passing from the cognition of premises to the cognition of conclusions, necessary reasoning, the generation of a judgment from others actually within one's understanding, orderliness in

reasoning from particulars to general or *vice versa*, whereby one can secure contrasts, or controls, readjudications. Endowments such as these are vouchsafed to few—very few, indeed. How many can achieve ratiocination and guide their actions by it habitually? Certainly not many unless they had been specifically so trained, and even then their original endowments should have coincided.

These three stages or degrees might be designed to furnish steps of growth in thoroughness, the one to supplement the other as a man may be able to afford the cost in time and money to rise from one plane or grade to the one above, to go as high as he may elect and be able to qualify thru progressive experiences and examinations, the crux being demonstrated aptitudes, not mere assumptions thru courses of study pursued and the passing of academic examinations.

Some men will be content to remain at one or other stage and will no doubt be kept amply busy within their limitations, do good work and make a good living.

If a man shall elect to pursue, or show special aptitudes in, laboratory work let him branch off in any one of these years, omit the practical branches, the dispensary or hospital experience, and devote himself more to technical expertness, clinical laboratory work, to advanced pathology, the details of bio-chemistry, urine, sputum, feces, hematology, special blood tests, Wassermann, Widal, and to blood transfusion, serology, or special forms of diagnosis, electrocardiography, roentgenology, radiology, etc. If one elects to become a thorough laboratory research worker let him study another year on special subjects.

Some men after one or two years might elect to go in for specialties of treatment, such as the X-ray, radium, of the nose, the throat, ear, eye, dermatology, etc. For this

purpose to have spent a year or two or three in elaborating other departments, as of surgery, obstetrics, gynecology, would be effort wasted and time lost. In order to become a consultant a man after a three or four years' course should devote a year or two in a special hospital work and assist a specialist in his chosen line for at least two or three years.

In short, much valuable time would be saved and confusion of attention, rather than a desirable amplification by omitting those subjects which by agreement could be safely omitted and give concentrated attention to one chosen line.

Then there should be preliminary examinations, testings, as to mental equipment and differentiation, to include *intellectual* intelligence, also *motor* intelligence, likewise for that elusive something we may call *gumption* or common sense. The general practitioner should be well endowed with motor intelligence, tactile apperception, mechanical aptitudes. For the higher class medical adviser greater emphasis should be laid on the more abstract processes of intellectation.

If, upon being tested, a student should prove more fit for one department, or domain of endeavor, let him either stick to that one or only pass on to another after a course of special training in practical doings, kinetogenics or biokinetics. For ratiocinative exploits a man may be a disembodied intellect, a pundit, a philosopher, and even then be scarcely able to shave himself without cutting his own throat.

During the preliminary instruction the element of choice should be permitted—elective courses—whereby a man going in for laboratory work, for example, should omit some of the elaborated clinical departments and only pursue such studies as he

prefers in his chosen course, *c. g.*, omit operative surgery, operative or practical obstetrics, gynecology, ophthalmology, orthopedics, etc. Of course this must include the acquirements of all the major fundamentals, such as the *principles* of these specialties. Then there might be at least three forms of electives beginning with the second year.

THE MODERN CONCEPTION OF THE PSYCHONEUROSES.

BY

DR. H. LAVESON,

New York City.

As a pupil of Charcot, in Paris, in 1885-1886, Freud received important incentives to investigation of the psychoneuroses. Prominent among these was the step by which Charcot surpassed the level of his original conception of hysteria and assured himself the fame of being the first to explain this enigmatical malady—a fact of great significance for the further investigations in this field. While Charcot was engaged in the study of the hysterical paralyses which follow dreams, the idea came to him to reproduce these paralyses artificially and to this end he made use of hysterical patients whom he brought into the somnambulistic state by hypnosis. He succeeded in proving that these paralyses may be the result of ideas which have gained the mastery of the patient's brain in moments of special disposition. Thus was the mechanism of an hysterical symptom elucidated for the first time, and this incomparably beautiful piece of clinical investigation enabled Charcot's pupil, P. Janet, to pave the way for a deeper penetration into the peculiar psychic processes of hysteria. This

example was followed by Breuer and Freud, who succeeded in sketching a psychologic theory of hysteria in their jointly published "Studies in Hysteria" (1895). In the year 1880-1882, Breuer had observed a noteworthy case of hysteria, which, in so-called hypnoidal states, revealed to the attending physician those psychic-traumatic experiences which had brought about the individual hysterical symptoms. Thereby appeared the entirely new and surprising fact that the individual hysterical symptoms disappear when the memory of the event which caused them is successfully brought to clear consciousness, at the same time arousing its accompanying effect and having the patient describe the event in all possible detail and give the effect expression in words.

In the further investigation of the psychoneuroses to which Freud now devoted himself exclusively, he found upon a more detailed study of the causative psychic traumas from which the hysterical symptoms were supposed to be derived, that these original scenes which had appeared to possess etiologic importance must, sometimes, be absolved from being the determining factor and the traumatic force which occasioned the disease. The traumatic experience thus lost its supreme importance and Freud found, thru continued analytic work in the associated memories of the patient, that no symptom of an hysteric could arise solely from an actual experience, but that in every case a memory awakened by association of an earlier traumatic experience usually belonging to the time of puberty, which had not at that time caused trouble, cooperated in the causation of the symptom. A further result of this later analytic work was the discovery that from whatever cause or whatever symptom one wishes to start, he finally came, without ex-

ception, to the field of sexual experience. Herewith was revealed for the first time an etiologic condition of an hysterical symptom.

But experiences recovered with so much trouble, extracted from the mass of old memories, seemingly the final traumatic events, altho they had the two characteristics of sexuality and puberty in common, proved themselves to be very disparate and of different value, so that further investigation was demanded. It was finally revealed that behind the sexual erotic events of puberty are still more far-reaching experiences of infantile life, which are also of sexual content, but of far more uniform kind than the previously revealed scenes occurring at puberty. These infantile experiences evince their effect in only the slightest degree at the time when they happen; far more important is the later effect, which finds expression only in later periods of maturity. Since these infantile experiences of sexual content can produce a psychic effect only by the aid of the memory, here is revealed the insight that hysterical symptoms never arise without the cooperation of the memory. Hysterical patients suffer from "reminiscences." At the bottom of every case of hysteria are found one or more events of premature sexual experience, which belong to earliest youth; these may be reproduced in memory by persevering analytic work even after decades have intervened. At that time these traumatic experiences were erroneously limited to neurotics; it soon became evident, however, that such experiences were often consciously remembered by individuals who remained perfectly healthy afterwards; hence the specific etiologic agent in the causation of the neurotic symptoms could not lie in this circumstance.

Under neurasthenia, Freud understands those frequent symptom-complexes of pressure in the head, spinal irritation, dyspepsia with flatulency and constipation, paresthesias, diminished potency, as well as a prevailing emotional depression. According to Freud's views, this clinical picture corresponds to the specific cause of excessive masturbation or frequent pollutions; or better expressed, neurasthenia may in every case be traced back to a condition of the nervous system, which has been acquired thru excessive masturbation, or arisen spontaneously from frequent pollutions. This picture of neurasthenia is a fairly uniform one; hence the various pseudoneurasthenias may be more sharply differentiated from true neurasthenia than formerly. Further, according to Moebius' proposal, many a *status nervosus* of hereditary degenerates can be placed at one side, and one will also find reasons for classifying many neuroses which are today called neurasthenia, especially those of intermittent or periodical nature, more properly as melancholia (cyclothymia).

Especially valuable for medicine has been Freud's sharp differentiation of the symptom-complex of the anxiety-neurosis from the previously described clinical picture of true neurasthenia. The name "anxiety-neurosis" arises from the fact that the various components of this symptom-complex are grouped around the cardinal symptom of anxiety to which each individual symptom shows a definite relationship. The anxious expectation is the nuclear symptom of the neurosis; in it may plainly be seen a part of the theory of the same. It can be said that there is here a quantity of free-floating fear (Angst) at hand which in the expectation rules the choice of ideas and is always ready to attach itself to any passing

idea. The anxiousness which is constantly present can, however, also break thru into consciousness suddenly, without being awakened by the course of ideas, thus causing an attack of anxiety. Such an anxiety attack may consist of either an anxious feeling without any associated idea or of the idea of impending death, of a stroke, or threatening insanity, or some paresthesia may be mixed with the anxious feeling, or finally, with the feeling of anxiety may come a disturbance of one or more of the bodily functions, the respiration, circulation, vasomotor innervation, glandular functions, etc. Out of this combination, the patient emphasizes now one, now another factor; he complains of heart cramp, dyspnea, sweating, ravenous appetite, etc., and in his representation the anxious feeling frequently becomes obscured or becomes really unrecognizable and described as a "bad feeling" of indefinite discomfort.

The psychogenic nature of hysteria, which had figured as a disease of the nerves until the time of Charcot, is already generally recognized from the works of Janet, Breuer and Freud. Altho the French school, with P. Janet at its head, had already accepted the conception of the dissociation of mind and of the unconscious in hysteria, still the view of Janet that the cause of the establishment of this mental dissociation was an inborn weakness of the mental synthesis was an unsatisfactory one. The Breuer-Freudian view put this dissociation and the unconscious in their correct mutual relationship by introducing a dynamic conception; the mental life is represented as a play of impelling and inhibiting forces and if, in one case, a group of ideas remain in the unconscious, an active conflict with other groups of ideas has caused the isolation and the unconscious-

ness of the first group. Thus, the peculiarity of the Freudian conception lies in the "repression." The analysis proves that such repressions play an extraordinarily important rôle in our mental life, that they may also frequently miscarry in the individual and that this failure of the repression is the prerequisite of the symptom formation. Psychoanalysis has not only enabled us in this manner to formulate the theory of the psychic conflict and the repression, but also to give the answer to the question, whence comes such a repression-compelling strife between the ego and individual groups of ideas. It deals with that deep antagonism between the instincts which serve sexuality and the gaining of sexual pleasure and those other instincts which have as a goal the constitution of the personality, the ego-instincts. The ego feels itself threatened by the demands of the overpowering sexual instinct and seeks to protect itself by repression. Freud could show further that the ultimate cause of the neurosis arose in early childhood, where the instinctive life, strengthened under certain constitutional conditions, favors the failure of the repression. The hysterical repression finds its analogue respecting its prerequisite condition, as has already been pointed out under sexuality of children, in the normally appearing "organic repression" of the child's instinctive and sexual life. This repression is the preliminary condition of that early hysterical repression which is only comprehensible thru the circumstance that the individual already possesses a store of memories which are withdrawn from conscious disposition and which now cut the bonds of association, leaving them free from consciousness to exercise the shocking powers of the repression. Thus, the sexually mature neurotic individual brings

with him regularly some sexual repression from his childhood, which comes into influence in the demands of real life and leads to conflicts. The flight from unsatisfying reality is never without an immediate gain of pleasure for the patients, thru the return to earlier phases of the sexual life which at that time did not lack a certain satisfaction; thus, as it were, an infantile condition of the sexual life is reestablished.

Only thru the disclosure of the fundamental etiologic importance of the psychosexual development for the establishment of the neuroses has hysteria ceased to be a "child of sorrow" of medical science for all earlier theories have led to no solution, or to an only partially satisfactory interpretation and explanation of this strange disease. The chief content of the mental structure of hystericals is, according to the results of psychoanalytic investigations, formed by the "love life" in its broadest sense, together with its intensive phantasies. Whoever is skeptical on this point nowadays plays a rôle scarcely noble, since the association investigation has provided exact proof for the fact that such emotionally-toned erotic complexes rule the mental picture of hystericals. This chief content of the mental picture of hystericals is really often hidden from superficial observation or symbolically represented like sexual matter in the dream. Nevertheless, the hysterical mind is controlled from childhood on by powerful counter impulses against their abnormally strong instinctive impulses. Only he who knows the romance of the hysterical can also bring the comprehension of the striking character changes which stand in closest connection to the fate of his eroticism. The general picture of hysteria is further comprehensible only when one has recognized that the hysterical fulfils an un-

conscious wish with his malady which should exempt him from the solution of his momentous erotic conflict. On this point, there is a certain external similarity between Freud's conception and the common view, to the extent that a recent experience makes the latent hysterical notoriously ill. Later investigation, however, shows these recent experiences to be regularly conflicts of the eroticism (a disappointment in love, a compulsory or renounced engagement, a sexual assault, a sudden sexual enlightenment), and when to superficial observation, there seem to be other motives (nursing the sick, death of a relative, etc.), a more penetrating investigation regularly reveals unconscious attachments between these banal events and sexual and infantile impressions. Thus, the hysterical patients suffer from reminiscences.

The obsessional neurosis has received an important elucidation which is often so severe as to undermine every happiness of life. To be sure, those suffering from this neurosis, the symptoms of which often appear in childhood, must come under treatment early. The explanation of this complicated clinical picture is accompanied by much greater difficulties than the interpretation of hysteria. In the exposition of the theory of the psychoneuroses, the fact has already been repeatedly mentioned and emphasized that the presuppositions of the obsessional neurosis are in part the same as in hysteria, and that their origin likewise rests on the unsuccessful repression of psychosexual factors. The differences are due to the fact that here a different repression mechanism and, because of the breaking thru of repressed material, a different kind of symptom formation comes into existence. The effect of the painful idea does not become transformed into physical symp-

tomis as in hysteria (conversion), but affixes itself to other ideas, not in themselves unbearable, thus producing by this false relationship obsessions (substitution). Characteristic of obsessive ideas and, in a broader sense, of obsessive mental processes in general, is that paradoxical feeling of compulsion or obsessiveness in which absurd or quite harmless ideas stand in the foreground of consciousness and resist dislodgment by logic, even proving completely refractory to it. This arises from the fact that the contents of these obsessive mental processes are only false labels, carriers of affects which do not really belong to them. Conscious logical effort exerts itself in vain, inasmuch as it only reaches a sphere of mental activity where it can accomplish no useful end. The displacement of the affect onto the substituted idea thus attains the end of making the real connection unrecognizable and the work of logic fruitless. Only when by the aid of psychoanalysis the true relation of the obsessive ideas to the infantile material is made conscious can the obsession be removed. The analytic therapy proceeds, therefore, upon the following assumption, which is also demonstrable elsewhere in mental life: Where there occurs a *mesalliance* between an idea and an affect, hence between the intensity of a self-reproach, for example, and the occasion for the reproach, the laity would say that the affect is too strong for the occasion, hence excessive, and the deduction drawn from the reproach is therefore false. The psychoanalyst, on the contrary, has to say: No, the affect is justified, the consciousness of guilt is not to be criticized; it belongs to another unknown (unconscious) content, which must be uncovered.

As already mentioned, infantilism and sexuality possess a fundamental etiologic

significance for the obsessional neurosis as well as for hysteria, altho in the obsessional condition these exhibit certain peculiarities. The sexual activities of childhood are manifested in a particularly active manner; without exception, these are children who even in early life betray very intense aggressiveness. In contrast to hysteria, this characteristic of precocious sexual activity is absent in no case of obsessional neurosis. With this difference is connected another, namely, that in this neurosis the male sex seems to have the preference. In general, the obsessional neurosis shows much more clearly than hysteria that the agents causing the neurosis are to be sought not in the actual but in the infantile sexual life. The necessary infantile basis of the obsessional neurosis, in distinction to that of hysteria, is not always completely lost in amnesia; in particular, the idea which is separated from its affect is frequently present and treated as of no consequence by the patient's consciousness. Etiologically, these two neuroses stand close together and frequently appear in combination. At the bottom of an obsessional neurosis, the analysis often reveals a bit of hysteria.

An especially strange trait of patients with obsessional neurosis, who have otherwise a fairly high degree of intelligence, is the above-mentioned superstitiousness. This belongs to their sufferings but not to their personality; it does not indeed permeate all their thought. The patients may be superstitious during the illness, but otherwise, enlightened and free thinkers. In this connection they often have two opposed convictions, not one incomplete opinion. Between these two convictions, they oscillate in the most obvious proportion to their suffering. This superstition is thus no real conviction with the patients but has an ob-

sessive character. From the analysis of cases of obsessional neurosis, a deep insight into the psychology of superstition may be gained. It can here be recognized that superstition springs from suppressed hostile and cruel impulses. Superstition is, in great part, expectation of misfortune, and he who has frequently wished an other evil, but on account of being trained to kindness has repressed such wishes into the unconscious, will find it especially easy to anticipate misfortune threatening him from without as punishment for such unconscious wickedness.

511 East 11th Street.

SECONDARY NEPHRECTOMY.¹

BY

GEORGE F. CAHILL, M. D.,

Assoc. Prof. Urology, N. Y. Post-Graduate Medical School,

New York City.

The term secondary as applied under this heading is meant those cases requiring a nephrectomy after a previous operation upon the kidney. A deliberate delay in removal is recommended in this manner by some operators in those cases in which either on account of the condition of the patient or on account of the difficulties of the operation, the operator thinks that the removal of the kidney may be postponed to a later date. On this basis for a long time a procedure similar to this has been used in appendix abscesses in which due either to the condition of the patient or the impossibility of locating the appendix, the abscess is only drained and then after a

complete recovery the appendix is removed in an interval operation. As a rule, cases requiring a deliberate delay do not occur in kidney surgery. An accurate determination of the condition of both kidneys is so relatively easy and the conditions of the kidney in which removal or not is demanded, are now so clear cut that a discussion of this procedure will not be taken up. In those cases in which nephrectomy is postponed in the hope that it will be easier to remove at a later date, it seems, in my experience, that secondary nephrectomy on the whole has been more difficult than primary removals.

This short paper is based upon a study of eleven cases in the last few years that previous to the nephrectomy there was an operation of some type or other upon the kidney.

Four of the cases were for conditions following calculous disease. The first of these cases was a recurrence of multiple calculi in one kidney following the removal of several calculi from the same kidney three years before. The case showed no marked infection of the affected kidney by cystoscopy, but a very marked lowering of the renal function in its secretion of normal constituents and in the secretion of dyes. In the judgment of the operator, removal only was indicated. Two cases were for recurrence of calculi in the kidney with an infection present, in other words, a calculus pyonephrosis. One with a large phosphatic stone in the pelvis of a pyonephrosis was entirely relieved by nephrectomy. The other case had a renal sinus secreting pus and urine thru the former lumbar wound. This case on cystoscopy showed no secretion of urine or dye down the affected ureter. Operation disclosed that the previous operator had either

¹ Read at the annual meeting of the alumni of New York Post-Graduate Hospital, May, 1921.

cut across the ureter at the pelvic junction or had obliterated the ureter in his suture, so that all the urine necessarily drained out the lumbar sinus. A stone reforming in the pelvis and an infection superimposed made the kidney worthless.

Two cases were pyonephrotic cases in which, at the original operation, either the real condition was ignored and the kidney drained in a vain hope of its recovery or as it appeared in one of these cases, the pyonephrotic kidney being particularly large and the operator probably not a very skilful one, discretion was considered to be better than valor.

In one case a renal decapsulation and suspension had been done under the mistaken diagnosis that her renal symptoms were due to a movable kidney, whereas an ordinary cystoscopist would have disclosed a low-grade pyonephrosis and recommended the removal that ultimately cured the condition.

Two cases were operated on for ruptured kidney. One, a young boy, in which a large hematoma was drained at the time of his injury. The wound drained urine and pus for a period of seven months. He was then cystoscoped, being possible only with a very small examining cystoscope, and no secretion either of urine or dye was seen to come from the ureter of the damaged kidney. Nephrectomy of a kidney that was composed of several almost completely separated fragments, produced a cure. The second case of ruptured kidney was in an adult that at the injury from a kick of a horse had a supposed ruptured intestine and a ruptured kidney. The first operation was for his supposed ruptured intestine, which was not found, and drainage of the ruptured kidney thru the lumbar region. A post-operative pneumonia developed into an

empyema, necessitating a rib resection. Recovery was with a foul-smelling lumbar sinus. The case was seen fourteen months following the injury. Cystoscopy revealed no secretion of urine or of functional dye test material down the affected ureter. Operation, a nephrectomy, showed a kidney entirely separated into two parts by a huge abscess and with apparently a separation of the renal vessels close to the aorta.

One case had a cyst of the kidney that was drained at the first operation and strange to relate, after drainage the wound healed. The cyst naturally refilling lead to a nephrectomy and cure.

One case had a hydronephrosis that was drained and after a long period healed. This case required a nephrectomy when her typical crisis of hydronephrosis recurred.

In pre-operative procedures in these cases, the most important of all is the proper determination of the pathologic condition and the functional activity of the so-called normal side. This was more or less easily done by cystoscopy and separation of the renal secretions. A functional test with one or more of the different dyes, phthalein or indigo-carmin, gave a good value of the two kidneys. Indigo-carmin was especially useful in the cases of ureteral occlusion for there a watching of the ureteric orifices on the affected side revealed no secretion and after a considerable period the dye appeared in seven or eight minutes thru the ureter.

The operative technic in a secondary nephrectomy varies little from that of the ordinary nephrectomy. In those cases in which there was a renal sinus present a complete removal of the sinus was carried out in every case. In the cases that were healed an incision was made that, in the

writer's judgment, gave the best approach to the kidney. The former scar was ignored, altho in most cases it paralleled or was in the center of the incision. As a rule, with no exceptions, the incision was large. It has been my observation, as it is of others, that far more damage is done by using a too small incision than a clean-cut large one. To deliver a kidney thru a small hole requires so much physical effort that the damage done to the surrounding tissues is one of the primary causes of failure to obtain union in the operative wound. All cases had considerable adhesions and induration of the muscle and fascial layers. The kidneys were firmly bound down and separation was more difficult than in normal cases. The kidneys in the old ruptured cases were almost impossible to separate from the surrounding structures and in one almost impossible of identification. There was always considerable ooze of blood from the renal bed, but that was always easy to control with hot saline compresses. The case that had a former decapsulation and suspension was a good example of how successful a kidney fixation can be, especially so when it was not necessary. The kidney pedicles were shorter than normal, resembling those occurring in renal tuberculosis. The pedicle clamps were applied in most cases, deep in the wound and the vessels tied in mass ligature. It has been the custom to clamp the kidney pedicle with three interlacing clamps and during the tying of the vessels one clamp is always on the vessels until the tie is completed. In this manner retraction of an untied vessel is impossible, for in an old, indurated wound, retraction of an untied renal artery or vein would be a calamity. All cases were drained at the posterior angle with a ciga-

rette drain. The wounds were sutured in layers with non-absorbable sutures to the skin. The healing in every case was by first intention with the exception of the drainage tract. It is remarkable that these cases show such an apparent resistance to the infective material that was formerly in its vicinity. The mortality in this series was nil.

In conclusion, it seems that of these cases, all with the exception of one, that of the supposed ruptured intestine and kidney, that a primary nephrectomy would have been indicated had the cases been properly studied and proper surgery applied.

TECHNIC FOR ADMINISTRATION OF SILVER-SALVARSAN.

BY

ROBERT L. COWEN, M. D.,

Detroit, Mich.

Observation of the results of an extravasation of a little silver-salvarsan into the tissues will convince one that they are more disastrous than those of any other form of arsphenamine. A frequent and untoward occurrence following the injection of silver-salvarsan is a small nodule in the vein at the site of injection. This more or less marked induration after being certain of having made a careful intravenous injection, can always be attributed to a slight infiltration of the drug into the vein wall itself. This may easily occur when the vein is being entered and a small drop of solution forced into the media of the vein. It very frequently happens that the plunger of the syringe slides down by its own weight during the act of entering the vein, and injects a drop of the fluid into the vessel wall without the physician being cognizant of the fact. In order to obviate

this, the syringe must be held perfectly horizontal—which is not always possible; or it is necessary to manipulate the syringe

safely if care is observed that the application of force on the needle does not force solution into the tissues or vein wall.



FIG. 1. Depicts the index finger held parallel to the vein selected for injection.

so as to prevent the sliding of the plunger inward. Hence, fixation of the plunger which is accomplished by the heel of the thumb is of signal importance.

Solutions of silver-salvarsan in concentration of 5 c. c. cause no local phlebitis if care is maintained that an intramural injection does not occur. It can be admin-

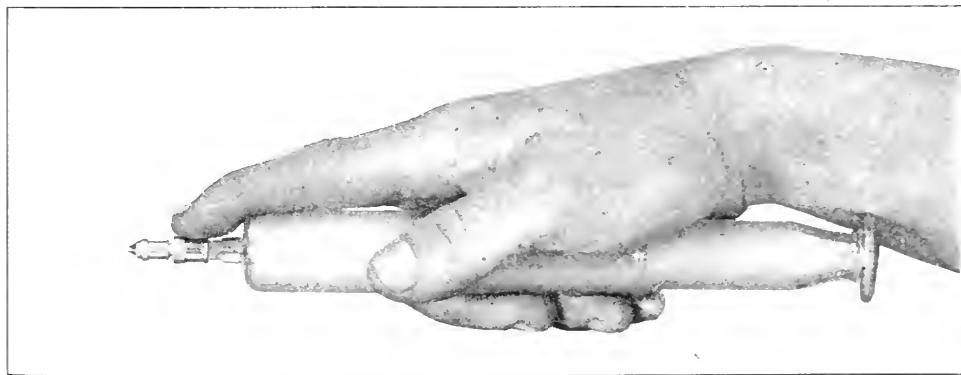


FIG. 2. A firm grasp on the syringe with the index finger, parallel to the vein, resting on the shaft of the needle. The plunger of the syringe is fixed by the thenar eminence. (The left index finger or thumb is used to fix the vein from sliding.)

Fixation of the plunger by the thenar eminence enables one to control injection until the needle is absolutely within the vein lumen. Dull needles can be used with

istered with safety in 5 c. c. solution of distilled water, but a dilution of 15 c. c. is just as convenient. Frequent aspirations of blood into the syringe during the injec-

tion not only serves to indicate that the needle is still in the vein lumen, but also forms a better diluent for the drug than

solution with silver-salvarsan is the best prophylactic against sensitization, and is the only explanation thus far for the prac-

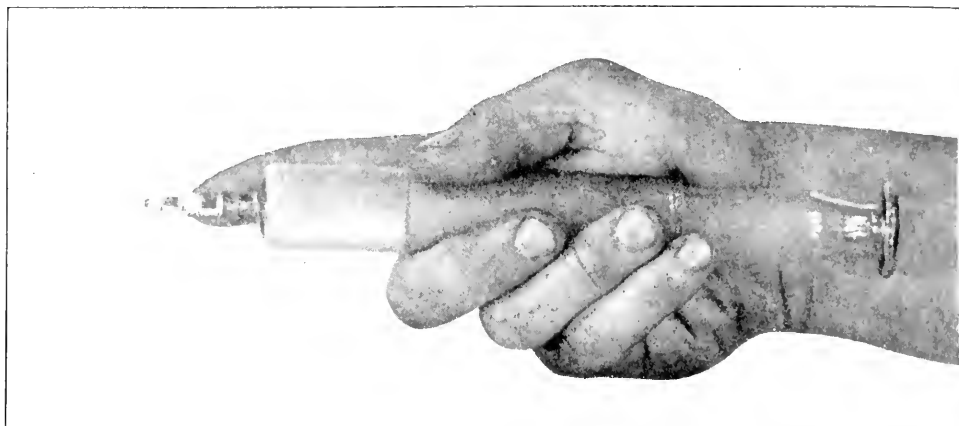


FIG. 3. Shows grasp, which is maintained from start to completion, on the syringe.

water. A routine method for alternation of aspirations with injection is to inject 2 c. c., withdraw 1 c. c., inject 2 c. c. more

tical freedom from reaction following silver-salvarsan as compared with other forms of arsphenamine. Reactions that have oc-

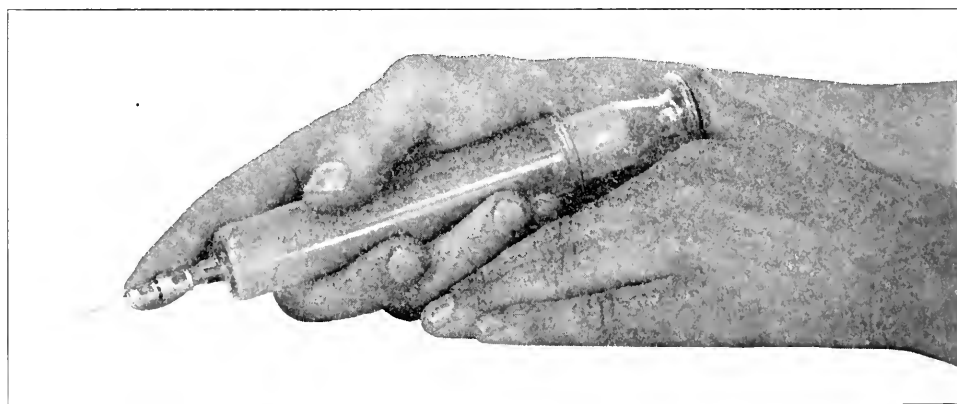


FIG. 4. Left hand resting on patient's arm; left thumb is used for injecting. Right hand is moved from the original position.

and again withdraw 1 c. c. of blood, and so on until completion. This gives a dilution of about 10 c. c. of blood which forms, apparently, a colloidal silver-salvarsan solution. "Neo," or old arsphenamine is not freely miscible with blood. This colloidal

curred with silver-salvarsan can often be attributed to this failure to aspirate and dilute with blood.

The illustrations show a simple and accurate method for the routine use of the syringe.

"IMPORTANCE OF COMPLETE ANALGESIA IN THE USE OF LOCAL ANESTHETICS."

BY

B. F. ZIMMERMAN, M. D.,

Louisville, Ky.

The use of local anesthetics has materially increased the scope of surgical possibilities. Many operations, otherwise of a painful character, are now performed under local analgesia with less discomfort and anxiety on the part of the patient than are usually observed after chloroform or ether narcosis. The surgeon frequently sees cases presenting certain complications, aside from the surgical condition, contraindicating a general anesthetic. In a certain percentage of these a successful operation is the only thing that offers a favorable prognosis.

According to my observations, the surgeon who performs the largest number and greatest variety of operations under local analgesia has the most success and the least cause for complaint, so far as failure to obtain complete anesthesia or the development of undesirable local conditions following the operation are concerned. This fact leads to but one conclusion: The most successful use of any local anesthetic requires the exercise of more thought and skill than is involved in merely injecting some anesthetic solution into the skin or subcutaneous structures.

Two very important elements of success should be considered in connection with a surgical procedure: 1. The operator should have the absolute confidence of the patient. 2. This confidence should be maintained thruout the operation. The patient must be assured that the operation will be practically painless. If, after some degree of

confidence has been thus established, the operator thrusts a large, dull needle into the deep structures, causing a considerable amount of pain, that confidence will be instantly destroyed. Such a misfortune can be avoided by assuring a patient that the sensation from the first prick of the needle will be scarcely noticeable. This can be assured by using a fine needle with a very sharp and perfectly beveled point. The point of the needle should be engaged in the dermal tissues and one or two minims of the solution injected, thus producing a small wheal indicating the degree and extent of anesthesia.

The first step in the technic can be completed with little or much pain and psychic disturbance, according to the manner in which it is carried out. If the injection is properly performed, the operator has kept faith with the patient and completely desensitized a "point of beginning." From this "point" further injections can be made both deep and wide, according to the character and location of the operation, with but very little pain or discomfort to the patient.

Altho the field of operation be thoroly anesthetized, most patients are still sensitive to motion or traction. In handling instruments or dressings the operator should be gentle and calm, avoiding unnecessary violence. His movements should be as deliberate as possible. Work under local anesthetics does not lend itself to the rapid procedure sometimes indulged in by operating "speed artists" performing under general anesthesia.

The old saying, "If a little will do good, more will do better," is not applicable in the use of local anesthetics. The only safe rule to follow is to use a sufficient amount of solution to produce complete anesthesia

—no less or no more. Those who have done a limited amount of this work will find that experience will fortify their judgment in selecting the proper solution and the correct amount for each operation. Incomplete anesthesia is very embarrassing to the surgeon. If the patient suffers pain, his cooperation is not secured, he will shrink from every motion, and there will be an occasional unconscious or involuntary muscular contraction. Complete relaxation is not only an advantage, but in some instances is essential if the best results are to be obtained.

Herniotomies are most favorably performed under local anesthesia. The following case history is illustrative of this fact:

Case I.—Male, aged 56 years. Right inguinal hernia. Herniotomy, Bassini method. One-half of one per cent. solution of apothesine was used. After anesthesia of the superficial layer had been completed further deep subcutaneous injections were made, gradually covering the immediate field of operation. The incision was first extended down to the aponeurosis, into and beneath which the anesthetic solution was injected, and then advanced into this structure, the nerve being blocked by means of an additional injection. The sac was isolated and separated by sharp dissection and, after apothesine solution had been injected around the neck, was ligated and removed. The patient had no pain during the entire operation, and the wound healed without suppuration or induration.

The following operation for hemorrhoids illustrates the practical application of a local anesthetic in this class of cases:

Case II.—Male, aged 28 years. Operation for hemorrhoids, ligature method. Owing to the extremely sensitive condition, a one per cent. solution of apothesine was used. A very small quantity of the solution was first introduced into the marginal tissue. From this point injections were made around the entire circumference of the anus, gradually advancing from one margin of the original anesthetized portion until the circle was complete. A submucous injection was then made along the anal canal for a distance of about two inches upward. The deep injections were six in num-

ber, in each case the needle being inserted just external to the sphincter and guided by the finger in the anal canal to prevent puncture of the mucosa. Division of the sphincter was painless; in fact, the entire operation was devoid of pain. The wound healed rapidly, with no complications.

The following case report illustrates another group of conditions in which a local anesthetic is of very practical use:

Case III.—Male, aged 23 years. Hyoid cyst. History of long-standing discharge of mucopurulent fluid. The condition dates from a previous attempt at drainage. First, the sinus was injected with a solution of methylene-blue for the purpose of determining its depth and circumference. A one per cent. solution of apothesine was then infiltrated around the cyst just under the skin, making the initial injection into the superficial structures, then gradually advancing with subsequent injections. Finally, a series of deeper injections was made and these were followed by injections into the base of the tumor, until the entire area surrounding the cyst had become anesthetized. The cyst was then carefully dissected away, it being necessary to advance to a depth well beyond and above the hyoid bone, necessitating a further infiltration with the apothesine solution.

This entire operation was painless. The only complaint of the patient was that occasioned by a pulling or traction sensation on the floor of the mouth when dissecting the base of the cyst. While this latter procedure is to be avoided when possible, it was necessary in this particular operation. The wound was closed by three deep sutures, a rubber drain placed in the upper anterior angle and a sterile dressing applied.

The Length of Human Life.—The average duration of life in India is less than 25 years. In Sweden it is over 50 years; in Denmark it is 51.17; in France, 47.4; in England and Wales, 45.9; in Italy, 42.9; and in Prussia, 42.8. In Geneva, where records are available for the past three centuries, the sixteenth century showed a lifespan of 21.2 years, the seventeenth century showed 25.7 years, the eighteenth, 33.3 years, and the nineteenth, 39.7 years.

UTERINE HEMORRHAGE—ITS CAUSE, SIGNIFICANCE AND CONTROL.¹

BY

D. Y. KEITH, M. D.,

Louisville, Ky.

In presenting the subject of uterine hemorrhage for discussion, we do so with the belief that there is no portion of the human body that deserves as much attention, thought and study by the physician and surgeon as the female generative organs.

Normal menstruation is a form of uterine hemorrhage that is quite complex, tho better understood today than at any time in the history of medicine. The cause of menstruation is conceded to be due to an internal secretion of the ovary, the hormone of the corpus luteum being the principal factor. The uterine endometrium is hypertrophied until the beginning of menstruation.

Uterine bleeding may be due to cancer, retained placental fragments, death of the fetus in an extra-uterine pregnancy, a submucous fibroid, chronic inflammatory disease of the tubes and ovary, a cervical lesion or an essential uterine hemorrhage. The reason for bleeding in many cases is a break in the endometrial wall and easily explained; on others the etiology seems to be both anatomic and physiologic and may be a result of some functional disturbance of the ovary.

Bleeding from cancer or a submucous fibroid are good illustrations of the one case and chronic adnexitis illustrates the other type of uterine hemorrhage. Some inexplorable cause may be a factor in the cases where no break in the endometrium

could be detected, as a simple hyperemia does not always give bleeding. We frequently see cases of chronic inflammation of the pelvic organs in which bleeding is the leading symptom, and in others there is never any uterine hemorrhage present.

Any lesion of the pelvic organs may give rise to uterine hemorrhage that may assert itself as menorrhagia or metrorrhagia. The keynote to the proper treatment of any uterine hemorrhage is an accurate diagnosis, some of which are quite easy and others are most difficult even when the patient is under anesthesia. A careful, correct history is of the greatest value to one who is a close observer and usually gives definite evidence in most cases.

The most important causes that we wish to consider are:

1. Cancer { Cervix,
Body of uterus.
2. Submucous fibroids.
3. Benign tumors of cervix and erosions.
4. Functional uterine hemorrhage which is often spoken of as "functional," "idiopathic" or "essential" uterine hemorrhage.

1. **Cancer:** This is the gravest and the most frequent cause of uterine hemorrhage and uterine bleeding is the first symptom that presents itself in at least 90 per cent. of the uterine or cervical cancers. It should be known as the most valuable symptom to any woman and the signal for a thoro examination by a competent physician. This is especially true if the bleeding is either profuse or persistent. Cervical cancer usually bleeds earlier than uterine, as it is subjected to trauma or friction against the vaginal walls. This is especially true in the cauliflower or fungous type of growth, as there is more enlargement than in the adeno-carcinoma of the cervix, where extension may be present before any bleeding or other symptoms appear.

Why are women prone to delay in seeking advice when abnormal symptoms first present themselves? (1) Believe it is a change of life. (2) Fear cancer will be found if examined. (3) Do not believe

¹ Read before the staff at Sts. Mary and Elizabeth Hospital, January, 1921.

it serious unless pain is present or some change in the general health. (4) The belief that if cancer is present no relief can be obtained. Too much cannot be preached on this one subject to the laity, and much good can come from within our own ranks, as many cases are seen too late in which the physician is responsible for the delay by carelessness or being unable to make a competent examination. Let me insist on inspection by a good light, preferably sunlight, and for the cervical examinations the knee-chest position always. No case of uterine bleeding should go unexamined or untreated until a discharge or foul odor is present, as these with pain are late symptoms.

2. **Myomata:** The bleeding is usually more profuse, with more clots, and in younger individuals in fibroids than in cancer. This is certainly true of the submucous type rather than of the intramural or subperiosteal type. Cancer of the cervix is rare in women who have borne no children or who have had no cervical dilatations for curettages.

3. **Bleeding From Cervical Erosions:** Old lacerations, benign tumors or polyps usually occur after severe exertion or direct trauma. The hemorrhage is usually slight and comes as a menorrhagia.

4. **Functional hemorrhage** comes on without any demonstrable lesion of any of the pelvic organs and is usually seen at the extremes of menstrual life, puberty and the menopause, tho it may occur at any age. The most careful examination reveals no change in the pelvic organs. The bleeding may be constant, profuse, and in some instances, alarming, usually as a menorrhagia with profuse bleeding at the menstrual time. Most of the cases seen by us have had from one to four curettements with little or no improvements. If the patient is near the menopause, curettement may be essential for diagnostic purposes, tho most of the pathologic reports are "chronic endometritis," "normal endometrium" or hypertrophic glandular endometritis. Many cases of this type have submitted to hysterectomy with the same report from the pathologist as when curettage specimens were examined. Cullen believes there is a hyperplasia of the endometrium. Novak believes "the histologic picture is extremely

characteristic, that there is a general hyperplasia of the uterine mucosa with an increase in both the epithelial and stromal elements and not infrequently the epithelial cells are seen to be several layers thick." An endothelium of this type is never observed except when associated with uterine bleeding. He believes this change in the endometrium is secondary to a disturbed function of the ovary. Almost all cases of uterine bleeding are due to disturbance of ovarian function except the destructive type, cancer, etc.

Uterine bleeding from retained particles of the placenta, pyosalpinx, and extra-uterine pregnancy are purely surgical and are not included in our present discussion.

There are few today who doubt the efficiency and superiority of radium or Roentgen ray in superficial epithelioma over any other therapy. We have failed to see any growth of this type that was not retrogressed by the proper dosage of ray. Many of course are cured and have remained cured for years.

Our early experience in deep therapy of the pelvis for malignancy gave early improvement, but in a short time recurrence appeared or the nausea accompanying the treatments were so dreaded that many of the patients refused to return until considerable pain was present. Many who have persisted in treatment have remained comfortable, free from foul odor, discharge and pain up until a very short time before their death. These remarks apply only to the hopelessly inoperable and post-operative recurrences, for until very recently none of the operable cases ever had any consideration except a complete hysterectomy or Wertheim's operation.

As statistics increase in accuracy and a greater number of cases of cancer of the cervix are being reported alive at the end of the three or five year period, we are sure few have not become convinced that in radium we have a much safer and easier

line of treatment, with a greater number of cures than are to be obtained from any form of surgery, or combination of surgery and the rays.

Those of you who try to practice conscientious surgery, we ask if you have not done so to consider the statistics of men—surgeons who have had a wide experience and have within the last five years had the opportunity to see the non-operative results of radium in cancer of the cervix with or without blocking of the lymph node drainage areas with either X-ray or radium.

Consider the following points in Jane-way's recently very complete statistical report of many operators:

Wertheim's mortality in his first 100 cases was 30 per cent. At present it is 10 per cent. Then consider that only 19 per cent. that come for treatment are operable.

In 5,000 cases reported there were 34 per cent. considered operable. There were only 19 per cent. of cures, and only 11 per cent. of cures of all who applied for treatment.

Then consider the suffering from operation and the miserable sequelæ of ureteral, bladder, rectal and sometimes intestinal fistulæ, suppurative cystitis, peritonitis, phlebitis, pleurisy and vesicovaginal or rectovaginal fistulæ and the shock to the nervous system from an operation of such magnitude. How long does it usually require for a patient to completely recover from the easiest, simple hysterectomy?

Then consider Kelly's and Burnham's report of 213 cases treated with radium with no mortality, no damnable sequelæ and the results in percentage are much higher, tho 95 per cent. of the cases treated were inoperable. Their report is as follows:

Cases treated, 213; cases operable, 14; cases operated, 10; cures, 57 or 26 per cent.

from 1 to 6 years. Forty-seven have been cured for more than 1 year, 35 for more than 2 years, 21 for more than 4 years and one for 6 years, and remember only 14 of the series were considered operable and only 10 were operated upon. Most operable reports show a recurrence from 60 per cent. to 75 per cent. within the first 12 months. Digest the above figures and compare with those cured by radical surgery.

We believe most surgeons and gynecologists are ready for a change if they can be shown that more patients can be ultimately saved by less dangerous methods. The statistics given are from surgeons who are specialists in this line and we must grant a greater mortality in the hands of men who are less expert in their work. J. G. Clark says, "If an operation or therapeutic procedure is to have a permanent place in our armamentarium it must be sufficiently easy for not only the specialist, but for every worker in every country." In his first 26 cases of Wertheim's operation his mortality was 22, or 73 per cent.

It is a fact that the higher the percentage of operability in any clinic the higher the percentage of morbidity and mortality, tho a greater number may be saved. Is it justifiable when we consider the sequelæ and suffering the patient has to undergo with an end-result of only 10 per cent. of cures to be obtained?

Ransohoff reports cures of 19 per cent. ranging from $2\frac{1}{2}$ to $5\frac{1}{2}$ years and in his series he took all types of cases, some of which were in the terminal stage of sepsis. Twenty-five per cent. were recurrent cases. How many surgeons with a series of 32 seen or 32 of his operable cases can report as high a percentage? Good reports are coming from both small and large clinics

alike. We should all believe at present that cancer of the cervix is not an operable condition at any stage of its progress, whether it be late or early.

It is our belief that with the application of radium locally and large amounts of radium or high resistant spark-gap of highly filtered X-rays for gland blocking the final results in cancer of the cervix will continue to improve and that combined radium and X-ray treatment should and will supplant operation, whether the patient is seen early or late. In a short time the manufacturers are expecting to have apparatus that will deliver 16-inch spark-gap instead of 9½-inch, which is now the maximum spark-gap in this country. In Europe, tubes and apparatus are at present taking care of 220,000 volts or a spark-gap of 20 inches.

In essential hemorrhage we have treated 57 cases with good results. A large majority of the cases have been above 35 years of age and a great number have reached 40 years. Many of these cases have been completely well for more than 3 years.

The nearer the approach to the menopause the easier or the less amount of radiation it requires for results. Usually, three series of treatment given at three-week intervals suffice. Only 4 cases of simple fibroid have been treated, in 3 of which the results were good; the other became impatient and submitted to operation at the end of seven weeks.

The only objections from the patient's viewpoint are the nausea that usually accompanies X-ray therapy after the second series of treatment and the possibility of sterilization in the young individual.

In the patients within the child-bearing period the dosage is given cautiously and waiting after each series for another men-

struation to determine results. Fortunately, most of these cases are approaching the menopause and are not concerned about sterility.

From reports of other workers the same results could have been attained with radium which would have been easier upon the patient as the dosage is very short for cessation of menstruation.

By X-ray therapy the result is obtained thru the effort upon the ovary. In radium there is a direct result upon the uterine endometrium as well as upon the ovary. The dosage at present is approaching the degree of accuracy by which menstruation can be checked or suspended temporarily without producing sterility. If this is desirable, a small dose is to be given and wait for the regular menstrual period to appear and determine results.

In a recent article on radium therapy Dr. Rudolph Matas says his beliefs are now convictions relative to both cancer of the cervix and uncomplicated fibroids. He says

"Personally, I would express my conviction in regard to the superiority of radium by saying that in the case of one of my family, my wife, my daughter, or some one over whom I had authority, or for whom I felt a direct responsibility, I would unhesitatingly look to radium as my first choice. In the light of my surgical experience, I deem it safe to estimate the average mortality of uncomplicated hysteromyomectomies at 4 per cent., I would still deem it my duty to try radium first, and the easier, safer, and more benign mode of cure, and the one that would impose the least hardship on my patient. It is understood that I am speaking of uncomplicated fibroids of the recognized type for radium treatment."

The following two cases are of enough interest to warrant a detailed report:

Case 1. Mrs. S. Age 37 years. Ma

ried. Referred by Drs. W. F. Boggess and Irwin Abell. Date, June 9, 1920.

The following menstrual history was obtained, that profuse and persistent menorrhagia with only an occasional day or two cessation had been present for several months, the amount and number of days per month of bleeding were both increasing. On vaginal examination a firm fibroid was found about the size of a four months' pregnancy. A toxic thyroid and an aortic systolic heart murmur prevented any surgical interference so she was referred to us for treatment.

She received four series of treatments, the menstruation ceasing in August, three months after beginning of treatment. On December 17, 1920, she was examined again by Drs. Boggess and Abell and both stated the tumor was about one-fourth of its original size. Treatments were discontinued as soon as bleeding stopped and we are positive the tumor will entirely disappear in a few months. This patient complained of a constant sciatic pain. She has recently (February 1, 1921) reported in excellent health and is free from sciatic pain, which had persisted for a total of ten months. There has been no return of menstruation.

The thyroid was also subjected to X-ray therapy and the pulse rate has gradually dropped from 148 to 84 per minute.

There were numerous areas of psoriasis scattered over the breast which received enough stray ray to cause a complete disappearance of the psoriasis in about three weeks. There were also several spots of psoriasis on the back which have been rayed direct, causing a complete disappearance of all the lesions.

Relief from uterine bleeding, toxic thyroid and two large areas of many small lesions of psoriasis within a period of a few months is a very remarkable result when you consider all of the three conditions were on the same patient. She will be closely watched for at least one year to see if any of the three conditions recur, as we know both toxic thyroid and psoriasis are very prone to recur.

Case 2. Mrs. G. W. P. Age 37 years. Married. Referred by Dr. Irwin Abell. Married life 20 years. Two children living, ages 16 and 5 years. Family history negative.

Menstruation, age 14 years. No pain. Always very free. One miscarriage 8 years ago. Had septicemia after first childbirth.

For past five months has had vague pains over abdomen, of a dull, achy character or simulating labor pains. Has a very sallow color. Very anemic. Hemoglobin 30 per cent., red cells 3,060,000. Color index 00.5. Marked systolic blowing murmur transmitted over great vessels.

Vaginal examination shows uterine enlargement, size of a grape-fruit, sensitive to pressure but movable.

She was transfused on June 4 by Dr. Abell, using 440 c. c. of the husband's blood, and again on July 1, using the same donor of 415 c. c. of blood. We began raying her pelvis on July 6. She was given four series of ray with an interval of two, three and four weeks, respectively, menstruating persistently, tho scantily after the third series. Since then there has been a complete cessation of menstruation with a return to normal weight, flesh, strength and health. She was in to see us on October 2, 1920, and appeared to be in perfect health. She was seen again in January, 1921, and remains in excellent health.

This patient visited a surgeon three months previously and was sent home as beyond surgical aid on account of her extreme anemia and heart murmur.

Comment. We believe she would have been cured with three series, but as she had come a great distance to us after the last menstruation we believed it more economical to give her another series rather than have the possibility of a return of her menstruation and another 200-mile trip for treatment. Had she lived close to us we would have waited for another menstrual period before further therapy. Radium would have probably saved her of the two transfusions, as radium could have been given in her room at the hospital. She was so weak the transfusions were absolutely necessary for her to be able to come to the office for treatment, as there was no X-ray equipment for therapy in the hospital.

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THE DANGERS OF WHOOPING COUGH AND THE VALUE OF VACCINES.¹

BY

HARRY S. BERMAN, M. D.,

Dept. of Infant Welfare, Detroit Board of Health,
 Detroit, Mich.

The dangers associated with whooping cough have been constantly overlooked by the laity. The old fanatical belief that every child must, thru the course of early life, pass thru the various diseases of childhood still continues. Unfortunately this superstition exists the world over.

Failing to realize the dangerous complications and sequelæ which follow the infectious and contagious diseases, as well as the ease with which these ailments are spread about thru a community, thereby creating epidemics, many of the common diseases of childhood are on the increase.

Diphtheria, until recent years, has always been the most dreaded of all contagious and infectious diseases, but since the success of antitoxin has reduced the mortality, the laity, and in many instances the physician, have forgotten that there still remain diseases to which the child is easier susceptible and just as detrimental or more so than diphtheria.

One disease that easily becomes epidemic in a community, attacking all ages, the new-

born as well as the aged adult, producing the highest percentage of deaths, is whooping cough.

Again, we hear it frequently said that breast-fed babies and adults are immune from the contagious diseases. This, unfortunately, is a grave mistake and a false conception. No one is entirely immune from any of the known infectious and contagious diseases of early childhood.

The writer has had under observation cases of whooping cough in the newborn and in adults 61 years old. This disease, which is, in my opinion, the easiest transmitted from one person to another, is, in its aggravated stage, the most dangerous of all diseases of childhood as well as the most pitiful to observe.

The death rate in this disease has been gradually on the increase, having reached its highest point during the month of April, 1921.

When an infant in the first six months of life develops whooping cough, frequently it terminates in death, either complicated by pneumonia or heart failure, brought on by a laryngospasm in the act of paroxysms.

It is true that whooping cough is not easily diagnosed until the spasmodic stage when the whoop develops; nevertheless, in the face of an epidemic or when whooping cough is prevalent the disease mentioned should always be seriously considered.

It has been stated that a large percentage of all cases of whooping cough never develops the whoop. Many believe that one attack is a life protection, and when the child does develop whooping cough they are surprised, for it is quite possible that the first attack was not whooping cough.

An important observation has proven that when a child coughs and this cough is more aggravated during the night and upon

¹ Read before the Maimonides Medical Society, May 17, 1921.

inquiry it is learned that the child has been exposed to whooping cough, the child should be regarded as dangerous, and all necessary precautions for the protection of others should be taken.

Notwithstanding the belief that the disease must run its course, as has been taught, the writer wishes to emphasize the fact that there is no set rule for the duration of whooping cough. Some cases will clear up in two to six weeks, while others will run on for two to six months, regardless of treatment.

As stated in the *Communicable Disease Code*,¹ Detroit Department of Health, 1921, Sec. 4, page 8, "The period of incubation for whooping cough is four weeks or until one week after the last characteristic whoop."

The old axiom, "an ounce of prevention is worth a pound of cure," is certainly worth trying. Preventive medicine is our most valuable asset and will be a certainty with the coming years. What we need most is universal cooperation to bring this about.

Since the development of vaccine therapy, many have tried to perfect a vaccine which will prevent and cure whooping cough.

Within the past few years many large cities have carried on experiments with vaccines manufactured by various pharmaceutical concerns and private laboratories.

The results have not been entirely satisfactory, tho, nevertheless, worth a trial. It has been proven, however, that as a preventive the vaccine is very efficient in a large per cent. of cases, providing it is given early and in sufficient large doses, at the same time serving a valuable purpose in the treatment of the disease. It is true that many will question the value of the

vaccine, but here I will say that the private physician sees but few cases from which to draw conclusions, while at a large clinic where thousands of cases are followed up, it is possible to form definite opinions.

In the Fall of 1916 the Detroit Board of Health established whooping cough clinics for the purpose of trying out the vaccine therapy.

With the entrance of the United States into the World War, the work was not continued as had been planned. Nevertheless, several thousand cases had been recorded. Whooping cough having been on the increase in 1920, these clinics were again re-established with results that have to the present writing been very gratifying.

These clinics are conducted afternoons twice weekly, in order to avoid contact with the children of the morning clinics. It is interesting to note the effort and interest shown in bringing the children for the vaccine treatment. Altho no medication is given, except on special requests, they return as instructed. The results have been in many cases exceptionally good, by reducing the duration of the disease, lessening the paroxysms and vomiting spells, and bringing about a more rapid recovery. While as a preventive the vaccine when administered early provides some protection by preventing the disease, reducing the severity, and avoiding the possible complications.

The exact figure of complications and deaths in whooping cough cases treated at the Board of Health clinics, station No. 1, is, unfortunately, not possible at this writing, owing to many children failing to return. However, from our records complications and deaths have been exceptionally few; all the deaths were in the first year of life.

It is unfortunate that some physicians refuse to encourage the use of whooping cough vaccines, while others discourage the parents when it is requested, thus forcing them to seek assistance at the various clinics.

It is the method of these clinics to refer the case back to the family physician, but the mother will state that her doctor will not administer the vaccines, and she has come to the clinics.

Many physicians hesitate to give vaccines to children owing to the possible anaphylaxis. The danger has been greatly overestimated.

Children tolerate vaccines exceptionally well. The younger the child, the less the fear for any reaction. Newborn babies tolerate the maximum doses of vaccines equal to that of an older child without the slightest bad effect. Physicians are prone to give too small a dose to produce results, fearing that a large dose may produce a reaction.

I can, therefore, safely recommend the administration of pertussis vaccines to children of any age, without producing the slightest danger. Permit me to say, that in any case insist upon giving the vaccine treatment in cases of whooping cough, and above all, urge its use as a preventive among exposed susceptible children.

TREATMENT.

This can be divided into: Hygienic, dietetic, and medicinal.

The hygiene of the patient is very important. Bathing should be continued, everything being equal, except when temperature is exceptionally high. Fresh air is of great importance. The sleeping quarters should be well ventilated with plenty of warm, fresh air. During the day the out-

door life is of much value in reducing the attacks of coughing. Windy and dusty localities are bad.

Diet.—A full substantial diet with frequent nourishment between the regular meals is necessary. Vomiting frequently follows an attack of coughing, thereby reducing the energy of the child by disturbed nutrition. It is, therefore, necessary to feed the child after having vomited the previous meal.

Medicinal.—The writer wishes to recommend the use of vaccines in the following doses. The course of treatment outlined at the Board of Health clinic is composed of six doses, during a period of four weeks. We begin with two injections each week for two weeks, giving the treatment every third day for five doses, with a rest period of one week between the fifth and sixth doses. The preventive treatment consists of two or three injections, depending on the length of exposures, and the amount of vaccine should be increased with each dose.

Two vaccines are used, Parke, Davis & Co.'s and Sherman's.

Parke, Davis & Co., No. 625, curative vaccine (mixed bacteria); No. 202, preventative vaccine (Bordet & Gengou bacillæ).

Sherman, No. 43, curative vaccine (mixed bacteria); No. 37, preventative vaccine (Bordet & Gengou bacillæ).

A child, having been exposed, is brought for the preventive treatment. If the case is early, two doses are given one week apart; if late, three doses are given during a period of three weeks. Either make of vaccine may be used, as follows:

Parke, Davis & Co., No. 202—First dose, 1 c. c. or 2,000,000,000; second dose, 1½

c. c. or 3,000,000,000; third dose, 2 c. c. or 4,000,000,000.

Sherman, No. 37—First dose, $\frac{1}{2}$ c. c. or 2,000,000,000; second dose, 2 c. c. or 4,000,000,000.

For curative effective doses we begin with the following:

Parke, Davis & Co., No. 625—First dose, $\frac{1}{2}$ c. c. or 1,000,000,000; second dose, $\frac{3}{4}$ c. c. or 1,500,000,000; third dose, 1 c. c. or 2,000,000,000; fourth dose, $1\frac{1}{4}$ c. c. or 2,500,000,000; fifth dose, $1\frac{1}{2}$ c. c. or 3,000,000,000; rest period of one week; sixth dose, 2 c. c. or 4,000,000,000. Course repeated if paroxysms continue.

Sherman, No. 43—First dose, 4 m. or 50,000,000; second dose, 6 m. or 1,781,000,000; third dose, 10 m. or 2,170,000,000; fourth dose, 1 c. c. or 2,723,000,000; fifth dose, $1\frac{1}{2}$ c. c. or 3,178,000,000; rest period of one week; sixth dose, $1\frac{3}{4}$ c. c. or 3,340,000,000. Repeated if paroxysms continue.

The results have, in the writer's opinion, warranted the use of vaccines. The importance of fresh products must not be forgotten. The fresher the vaccine, the better result will be obtained. Autogenous vaccines are used with good results.

There is no special drug that will cure whooping cough. Many preparations are being used as antispasmodics with some value in subduing the paroxysms. The drugs worthy of mention are, in order, anti-tyrine, belladonna, and atropine.

SOCIAL ASPECT.

In conclusion, let us not forget that it is the duty of every citizen to report all cases of whooping cough, so that the home and child may be distinguished as dangerous.

Keep children with whooping cough away from public places, such as schools,

movies, public gatherings, and department stores. Do not take them on street cars, or in any public vehicle, and, above all, keep young infants away from persons with a suspicious cough and urge the possibility of prevention with whooping-cough vaccines.

Reference is made to the splendid article on whooping cough by William Palmer Lucas.² From a prophylactic standpoint, the vaccine treatment seems to have more value in preventing the occurrence of whooping cough by producing an immunity. The exact length of time of immunity is not known, but is said to be until about the fourth year. The prophylactic vaccine treatment promises to be the best means of reducing the mortality from whooping cough in infancy.

Hygiene and vaccines are probably the only forms of treatment that have any curative values, or that limit the length of the infection.

Don't forget: That the control of whooping cough is in the hands of the public itself. Further investigations with whooping cough vaccines are being made, to be reported later.

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Acute Nephritis in Syphilis.—Silverman (*New Orleans Med. and Surg. Jour.*, Apr., 1921) reports two cases of acute nephritis in which no arsenic or mercury had been given prior to the patients coming under his observation. Being unable to account for any other etiologic factor in either of them, the presence of syphilis prompted investigation to establish a possible relationship between the nephritis and the treponema.

GET THE HABIT—THE ESSENTIAL FACTOR IN THE FIGHT AGAINST TUBERCULOSIS.

BY

DR. STEPHEN HARNSBERGER,

Catlett, Va.

Non est vivere, sed valere vita.

This paper is an incomplete summary of what can be said on the subject. It aims, however, to stimulate the interest of physicians in the fight against the worst of all plagues—tuberculosis. Permit me to quote from Missouri: "Tuberculosis is the most common serious disease, one of the most contagious of all diseases, one of the most fatal if neglected, one of the most curable if detected early and handled with interest and enthusiasm, and one of the most interesting, if one once becomes interested in it."

Many physicians are too busy, some are too impatient, others are too lazy, and all of us, perhaps, are too careless to give thought and time outside of our customary routine. But fulfilment of our duty to our patients does not end our obligation. We must look beyond; not just correct the fault which brings a patient to us, but see what we have not seen, and strive to abate influences and conditions which may act as potential, predisposing and inciting causes of the disease. Though physicians have to work individually, this is no reason why they should not co-operate collectively, and actively, if not enthusiastically. Organized effort invariably accomplishes definite results.

How best to fight against tuberculosis? Kindly indulge the suggestion of the following seemingly feasible method of procedure:

Get the habit of keeping in mind that

knowledge awakens conceptions which evolve and exalt human energies. The people do not know. Conventional ignorance blinds them to even the elemental demands of life. The people must be made to see and think before they give manifest heed to changes best for individual and community. The solution is in the dissemination of plain health facts through educational enlightenment.

Get the habit of emphasizing the value of the press, which is ever active in giving time and space to all matters calculated to help the people. Newspapers strive to keep readers abreast of the current of daily news, business progress and public health reforms. They are among the people's best friends. Advise families to take, pay for and read at least one live newspaper.

Get the habit of admonishing people not to hold ill feeling toward railroads. No community without a railroad can develop into anything like a highly prosperous and enlightened section. *It is noteworthy that prosperity and knowledge are virile antagonists of tuberculosis.* Therefore, have the people keep in friendly touch with railroads. What is best for one is best for the other. Repressive agitation and legislation have crippled railroad expansion.

Get the habit of reminding women, especially in rural sections, that bad roads spell oppression—good roads liberty for women and children. *Fix in mind that bad environment and ignorance are the chief factors that give life and sweep to the agents and agencies which create and spread tuberculosis.* Good roads swell business opportunity, enforce equity of wage-scale, make for more comfortable homes, promote social intercourse, minimize illiteracy, elevate moral tone, improve environment, cut down disease and contribute increased happiness.

Railroads and good roads must have recognition as valuable units in the campaign against tuberculosis.

Reforms go slow and this snailpace is due, in most part, to the unthinking, unthrifty, improvident classes of men who smoke and chew and drink inveterately; who spend on consciously useless and harmful habits what should go to their families; who too often force their families to a life of poverty and ignorance; and if diverted from such waste to road building, the country would soon become a net-work of good roads. With good highways we would not have poverty and tuberculosis at every crossroad and illiteracy would be noted as a blunder of the past.

Get the habit of telling the people that the conquest of tuberculosis depends to a large extent on *better* care of the *mother before and during pregnancy* and of *both mother and child during and after birth*. A healthy mother, other things being equal, will bring forth a healthy child. In atypical cases, however, the safety of both mother and child rests altogether upon the knowledge, experience, skill and care of the person in charge. Therefore, it is always best for parturient women to be attended by properly qualified physicians. Midwives should never be employed. Many surgeons openly charge that they are kept busy by the careless and ignorant attention given women at childbirth. For this reason, if for no other, obstetrics and pediatrics should be made to take first rank in medical schools (and not the tail-end as heretofore), and graduates should be required to have at least *two years of practical bedside experience in these two branches before they are eligible to practice*.

Get the habit of teaching people that *health measures can do good only to the*

degree and time they give them definite use. "Habit," Webster explains, "is an internal principle which leads us to do easily, naturally, and with growing certainty, what we do often." Hence naturally, habit of doing becomes a conviction, and being a conviction, goads to exertion. Misfortune is not a crime, nor is imprudence the greatest guilt; *but the people should know that physical, mental, moral and spiritual deterioration follows their own lack of forethought.* Keep this reminder before them.

Get the habit of looking for *tuberculosis and the conditions which lead up to the disease*. This constant alertness will better edge diagnostic acumen and will lead repeatedly to a correct diagnosis, even without the confirmatory evidence of plain objective symptoms and signs. The judgment trained by close observation learns to correctly interpret the collective clinical findings and a correct diagnosis is frequently made in advance of the disease itself. Or, to put it clearer: Use "*common sense vivified and heated by conscience*"—*the complementary essential in the hunt for tuberculosis*. In no other disease is this so true as in tuberculosis. *The early diagnosis*, which statistics show is now seldom made, *is the peremptory prerequisite step in its cure, control and prevention. Of all defaults of duty, the late diagnosis defines the greatest wrong.*

Get the habit of instructing the masses, and particularly legislators, that the prevention and cure of tuberculosis involves sociologic and economic problems; to meet which existing state laws must be so worded as to give health departments power, thru discretionary authority and adequate financial aid, to take supervisory charge over all suspects, environments and cases which may make the activity and

spread of the disease a menace to others. While it cannot be too strongly emphasized that laws designed to control and restrict tuberculosis are primarily public health measures, and that the economic problems that may be involved should be considered as being of but secondary importance, it remains an indisputable fact, a fact not hitherto given prominent thought, *that spending money to safeguard the people against tuberculosis is an actual saving of money.* For the measures instituted to curb tuberculosis—legal and equitable care—the improvement of environment by hygienic and sanitary measures, at one and the same time effectually works to prevent all other preventable diseases. They are economic measures because comprehensive in application and results. This ultimate truth bars rational contradiction. Legislators, it is gratifying to feel, are awakening to a greater degree of appreciation of the fact that adequate provision must be made to protect the well from tuberculosis and to reinstate its victims to a life of usefulness.

Get the habit of keeping before the minds of the people that modern medical thought turned the pestridden jungle of Panama into a model habitable area. It seems axiomatic that what has been done there can be done elsewhere. It gives the hope and furnishes the basis of the belief that cleanliness and sanitation is all that is necessary to wipe preventable diseases from the face of the earth. But this is by no means true. We are told that adequate living wages and sanitary measures did it there and will do it anywhere. This also is not true. Neither the one nor the other, nor both together did it. What then you ask, did do it? The well applied coercive police supervision did it—the penalty of

loss of work and wages. That and that alone did it there and without this magic stabilizing force it cannot be done elsewhere—to the same degree of perfectness and permanence. Keep this before the people in general and legislators in particular. It will show them that counties, municipalities and states must have health boards holding positive governing powers, and that these health boards must have full time health officers and visiting agents to inspect, direct and enforce the things that are best for the people's and states' welfare. With this manifest truth engraved on their minds, they will know that it is for them to *open the door that bars the way to safety.*

Get the habit of realizing that we have been shooting too much at random. It is time we were nearing the mark. Experience, reason, safety, expediency mutually combine to urge this evident course: *Spot out the incipient case—isolate it—cure it—the only way to stop it.*

"Oft, when in my heart was heard thy timely mandate, I deferred the task."—*Wadsworth.*

Defer no longer—let affirmative action seal that inward conviction of duty. Now—today—the "timely mandate" warns; tomorrow awakes tuberculosis—opportunity gone—death.

Diurnal Somnolence and Nocturnal Wakefulness in Lethargic Encephalitis.

The chief feature in the two cases cited by Fletcher (*British Jour. of Children's Diseases*, London, April-June, 1921), was remarkable degree of somnolence during the day associated with wakefulness during the night. Generally the sleepiness did not appear to be associated with any definite constitutional disturbance; in one case, however, the onset was associated with pain in the limbs and diplopia.

A TRIBUTE TO DR. BUTLER.

BY

E. S. GOODHUE, M. D.,
Roosevelt, Hawaii.

Within the year, two of my personal friends and correspondents have died—Dr. William Osler and Dr. Isadore Dyer; now comes the message of Dr. Butler's sudden death on his way home to Chicago from Boston.

For about 30 years we had tested the quality of friendship by absence, by silence, by sorrow and shock, and by the intervention of, to us, untraversable distances.

Yet, at intervals, we came in touch again, and nothing was able to short-circuit the affection and loyalty which were a part of Dr. Butler's character.

Feeling was renewed or warmed by a book or a poem which came to me with a friendly inscription, revealing much of the author's personality, and the changes in attitude and belief which are the fruits of experiences.

But his heart for his friends never changed, as one might discover in his charming "Just Among Friends," appearing as the title of regular contributions to periodical literature. As poetry, Dr. Butler's "Echoes of Petrarch" deserves special attention. His medical and scientific works were many and important, and his last book, "How the Mind Cures," published by Knopf, indicates the growth of a physician's mind toward methods of treatment which, if not irregular, are at least unusual.

Friendships between professional writers do not always "run smooth" any more than between men and women in other fields of work. The exigencies of a literary life, temperamental qualities, the "artistic temperament," if you will, are hindrances to

intimate relationships; but I do not think this holds good as between physicians. It was my privilege to be the friend and correspondent during many years of Dr. S. Weir Mitchell, Dr. Osler, Dr. Dyer, Dr. Crane, and I count now among such, Dr. Norman Bridge, Dr. W. H. Welch, Dr. J. G. Adami, Dr. Burdick, and many others. These are also authors.

Dr. Butler was exceptionally free from the traits which are said to be common to "artists," altho he was a poet; and into his soul never entered the taint of envy or jealousy; he was modest, self-effacing, responsive, and full of a tender sentiment never mawkish, which made his life a joy to others who knew him.

He was a skilled physician. Only a few weeks ago he sent me a poem for a book of tributes to Mr. Roosevelt, which I am editing. Little I thought that it would be my sad duty to write this one to him.¹

Dr. Butler was born at Moravia, N. Y., in 1857, and was, therefore, only 64 years of age. He had been attending the Boston meeting of the A. M. A., and was returning home with his daughter when he was stricken on the cars.

That so many miss and mourn him will be a comfort to his wife and daughter.

Asthma from Idiosyncrasy to Potato.—

The woman of 56 has been subject to asthma all her life but only recently was it traced to its cause in an idiosyncrasy to potato. The anaphylactic asthma was accompanied by the hemoclastic shock, etc. Roch and Schiff (*Bulletins de la Société Médicale des Hôpitaux*, Paris, June 10, 1921) are now studying the case to determine which element in the potato is responsible for the anaphylaxis, so that they can apply it to desensitize the patient.

¹ Two other contributors have died since the anthology was begun—John Burroughs and Franklin K. Lane.



Special Article

THE VIVISECTION OF CAPITAL CRIMINALS FOR THE ADVANCEMENT OF KNOWLEDGE IN MEDICINE.

BY

EDWARD PODOLSKY.

Brooklyn, N. Y.

The gradual realization of a series of certain facts forces us to believe that the vivisection of capital criminals for the advancement of knowledge in medicine will be permanently established as an institution. The past experiences of the human race which led to the formation of a philosophy that demanded the sacrifice of the detrimental few that the useful many may live more comfortably and in less danger, and the ever-increasing desire to discard sentiment when it interferes with the working of economic measures, serve as fundamental supports to this conviction. Human psychology is gradually adjusting itself to accept certain seemingly novel conditions as necessary for the preservation and continued welfare of the social organism.

The adoption of vivisection of criminals as an economic measure would by no means be new, for it is known to have been practised at various stages during the history of the human race. It did not survive as a permanent institution, because of the rather crude methods by which it was carried out, and because of the too great sentiment directed against it. While the so-called moralists asserted that the precepts of mo-

rality were being violated, the medical researches maintained rightfully that it was by no means cruel to torture the guilty few to search after remedies for the whole innocent race of mankind. (*Celsus*.)

The desire to discover certain truths from the human body having manifested itself early, the vivisection of criminals was begun in very early times. Ptolemy Philadelphus placed at the disposal of the scientists of Alexandria criminals convicted for the worst crimes. With this practice of dissecting living criminals at Alexandria, began the rise of that city as one of the greatest medical centers of the ancient world. Several centuries later, Herophilus, the Chalcedonian, and pupil of Praxagoras of Cos, and, later Diocles of Carytus, the first of the Hippocratic school to distinguish himself as an anatomist, began to dissect criminals. These he got out of the prisons by royal permission. With Erasistratus, he carried on his anatomical researches on the bodies of living criminals on a large scale, it being reputed that Herophilus alone dissected over 600 hundred criminals in these studies. Both made noteworthy discoveries in anatomy that benefited the human race to a great degree, and to Herophilus we owe some of the anatomical terms in use today.

The next important stage in the history of criminal vivisection took place during the Middle Ages. In Montpellier and other French cities, at this time, physicians vivisected criminals in their search for further medical principles. In the Italian cities of Florence, Venice, and Pisa, criminals were vivisected to a large degree. In the Criminal Archives of Florence, Professor Andreozzi has discovered the fact that during the reign of Cosimo de Medici, condemned criminals were from time to time

nt to the scientists of Pisa, there to be anatomized. The following are some of the cases mentioned in his work, *Leggi Penali degli antichi Cinesi*.

I. December 14, 1547. Guillo Mancini anese was condemned for robbery and her offences. Sent to Pisa to be anatomized. *Ducatur Pisis pro faciendo de ecotomia*.

II. In the record of prisoners sent away dated September 1, 1551, occurs this entry: Letter to the Commissioner of Castrocara at Maddalena who is imprisoned for killing her son, should be sent here, if she is likely to recover, as it pleases S. E. that she should be reserved for anatomy. Of this, nothing is to be said, but she is to be kept in hopes. If she is not likely to recover, the executioner is to be sent for to decapitate her. * * * Went to Pisa, to make an anatomy."

III. December 12, 1552. A man named Accheria, accused of piracy, was reserved from hanging, with his comrade, and sent to Pisa, *per la notomia*.

IV. December 22, 1552. A certain Livo Di Paolo was condemned by the Council of Eight, to be hanged, for poisoning his wife. Sentence changed * * * he sent for anatomy. Was sent to Pisa, January 13.

V. November 14, 1553. Marguerita, wife of Biajio D'Antinou, condemned to be beheaded for infanticide. * * * December 20, she was released from the fetters and consigned to a familiar, who took her to Pisa to the Commissario, who gave her, as usual, to the anatomists, to make anatomy of her; this was done accordingly. (*Che la consegui, secondo il solito, al notomista, per farne notomia, come fu fatto*.)

Several other cases, from 1554 to 1570, are recorded, which inform us thatieves, Paola Di Giovanni and Vestrini Agnolo, were sent together by the Council of Eight to be anatomized, the Duke having written to say that they wanted, in Pisa, a subject for anatomy. After the date 1570 no more cases occur in the Archives. In all, thirteen criminals were delivered over for scientific research. During part of this period the great Vesalius and

his pupil Fallopius were carrying on their researches in anatomy and lecturing on this science.

After this period, the vivisection of criminals diminished to a very small scale, and ceased entirely for several generations. Now and then it was revived when a fit of enthusiasm came upon physicians to try out some new theory on a human subject. Such was the case in France several generations ago. A celebrated savant, author of a work on the effects of imagination, desired to prove his theories by actual practice. For the purpose of carrying out his proposition, he requested the Minister of Justice in Paris to allow him to try an experiment on a criminal condemned to death. The Minister consented, and turned over to the physician a murderer of distinguished rank. The scientist informed this unfortunate that several persons being interested in his family had prevailed upon the judge not to require of him the usual means of execution. His sentence, he was told, was therefore changed. "But," continued the physician, "you shall be bled to death within the precincts of your prison: your dissolution will be gradual, and free from pain." The criminal submitted to his fate, thinking that his family would be less disgraced thru this procedure, and considered it a special favor to be put to death in this manner. He was accordingly made ready for the experiment, and by a clever conduction of affairs was made to believe that his veins had been opened and that his blood was flowing freely, whereas he had been but gently pricked on the skin, and small fountains of water were placed about him, to simulate the flow of blood. Within a few hours the man was dead. The doctor's theories were confirmed, which gave rise in a large measure to the

definite establishment of the value of suggested therapeutics.

When Henry II of France was mortally wounded by a splinter from a spear which had entered below his vizor and pierced his eye, the surgeons, for the purpose of discovering the probable injury done to the king, cut off the heads of four criminals and thrust splinters into their eyes at the same inclination as the fatal one that had entered the eye of the king. Altho this might not be called so economic a measure as the preceding ones, it illustrates, nevertheless, the prevailing philosophy of the time: if you must sacrifice the guilty, do it for some definite good, if possible.

Within more modern times the question of vivisectioning capital criminals in the interest of society and science has come up again and again for consideration in the various countries of Europe. Even in the United States there has been at various intervals earnest and serious discussion of this question. At a meeting of the Tri-State Medical Association, held at Peoria, Ill., October 3, 1893, Dr. John S. Pyle read a paper entitled "A Plea for the Appropriation of Criminals, Condemned to Capital Punishment, to the Experimental Physiologists." Dr. Pyle suggested:

"A building should be especially erected and every form of mechanical appliance provided for prosecution of psychical inquiry and studies of the general nervous system. A body of expert physiologists should be appointed to carry out the commands of the state. Every person interested in scientific studies or physiologic and psychical inquiry should be admitted to executions" (p. 8).

Several years later Mr. Rowlen introduced into the Senate of Ohio a bill proposing the vivisection of capital criminals (*House Bill No. 135*, 71st General Assem-

bly, Regular Session). It consisted of three long sections of which the following quotations will serve to show the substance:

"That all persons sentenced to death by any court having jurisdiction in the State of Ohio, shall be held as subjects for experimental research; that such experiments should be conducted in the interest of science and society."

"That the executioner shall be an expert physiologist, duly appointed and authorized by the State, and that such appointments to execute and conduct such experiments shall be vested in the governor and shall consist of one executioner and five assistant physiologists, with a like number of deputies, who shall hold their office for the term of good behavior, except upon proof of incompetency."

"That no one shall be present at experiments except the warden or deputy warden in charge of the prisoner, the executioner, assistants and deputies, and those who have duly qualified themselves to comprehend the experimental work."

It is readily to be seen that these methods of criminal vivisection are crude and not quite in spirit with modern scientific research. They aim to rid of the criminal in a more novel way, ignoring entirely whether science derives full benefit by the culprit's death or none at all. If we may feel ourselves bold enough to think of adoption of this method we might consider several phases of the proposition.

If it is necessary to deprive a capital criminal of his life, we may do it in a manner whereby the interests of society and science will be furthered. If sentiment is directed against this procedure, it is unjustifiable and entirely uncalled for, because it is opposing and interfering with the workings of an economic measure. Modern thought and science it would seem, may properly advise and support the adoption of the vivisection of criminals with the following provisions:

No person whosoever shall have his body experimented upon for the purpose of discovering a new truth or principle in medicine, unless such a person has committed a crime that is deemed punishable by capital punishment. All capital criminals should be consigned to special research stations, wherein they may be put under study and experimentation. No experiment on such a criminal should be unnecessarily cruel, and all methods of modern science should be employed to spare the criminal as much pain as possible. No condemned person should be experimented upon with a view of depriving him of life until the point in question is discovered or ascertained. If a criminal successfully survives the experimentation, and as a result thereof a valuable discovery has been made, that prisoner should be considered for exemption from further experimentation, and possibly pardoned or consigned to some useful occupation for the remainder of life.

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Organotherapy in the Treatment of Malarial Infection.—A writer in the *Indian Medical Record* for December, 1920, claims that there is an important relation between malaria and the glands of internal secretion. As these glands are the chief factors in the defensive mechanism of the organism, this can be readily appreciated and all the more so because, in the words of Sir Patrick Manson, "We don't cure protozoal infections with drugs. We keep them in check until the resisting power of the patient can overcome them." That has been the rôle played by quinine during the many years it has been used in the treatment of malaria.

It has been found, says an editorial writer in *Clinical Medicine* (June, 1921), in con-

tinuing the discussion, that suprarenal insufficiency accounts for the asthenia, cachexia and anemia so often met with in malaria, while it also is responsible for the digestive disturbances frequent in the chronic form of the affection. It is, therefore, with justice that epinephrin has been advocated as meriting a place close to quinine in the treatment of severe forms of malaria.

As the spleen is one of the organs affected in malaria, spleen therapy has been advocated, especially where there is definite evidence of enlargement of the organ. This form of therapy has proved its usefulness. One author has gone so far as to say that it produces the good effects of quinine without its bad effects. Nouveau claims that it is superior to quinine, arsenic or iron in the treatment of paludism. Other authors claim good results and Paucot, of the French Army Medical Corps, has used spleen therapy, summing up as follows:

"This treatment has given me results incomparably superior to those which I have secured from other methods of treatment. It seems to succeed in every case of chronic splenitis, save only where the spleen has acquired a stone-like hardness and has become adherent to the diaphragm or abdominal wall. Even then, however, there has been amelioration. The general condition is rapidly benefited. The men are so thoroly cured that they are able to continue their service, thus obviating a considerable expense and loss of men to the government."

Lamballe, of the British Royal Army Medical Corps, used the pancreatic ferments, trypsin and amylopsin, hypodermically in the treatment of malaria and reports good results following their use. He says: "Clinically, the results are most marked. The change in the patient within a few hours is remarkable and the benefit permanent."

The thyroid, with its well-known antitoxic and protective part, is undoubtedly indicated in such an infection as malaria and the stimulating effect of small doses of thyroid on the suprarenal glands.

The Therapeutic Application of Glandular Products.—In a discussion before the American Therapeutic Society, as reported

in the *Medical Record*, August 20, 1921, Osborne said the subject of the physiology of the endocrine glands and of the symptoms of their pathology, and the therapeutic value of their extracts was of so much importance and created so much interest, that very much had been written and said with too much enthusiasm and without scientific proof. There was no question that the child, man, or woman was physically and mentally what the secretions of his or her endocrine glands determined. It had been clinically and experimentally demonstrated that the secretions of some, at least, of the endocrine glands were essential for the human being to be normal. However, physicians and even the laity were unfortunately becoming over-enthusiastic in the use of glandular extracts and of glandular mixtures, concerning the activities of which they knew but little, and even patent medicine advertisements were now lauding the use of monkey or other gland materials. Before deciding that a glandular extract was indicated, one must investigate the whole life history of the individual, noting development in all its details from babyhood, thru childhood, puberty, and adult life, to the changes from 45 to 50, and to senility. The hair, the teeth, the nails, the skin pigmentations, mental activity, the digestion, the blood-pressure, and the character of the circulation all would give indications of the sufficiency or insufficiency of one or more glands. It should also be recognized that the glandular functions were interlocking, and deficiency of one gland might cause deficiencies or hypersecretions of other glands, and the symptoms or conditions present were the outcome of these several disturbed functions. Therefore, to administer empirically a single or several glandular extracts to a patient, without the most careful supervision or without the understanding that undesired activities might be developed, was inexcusable. On the other hand, from the very nature of these glandular tissues and the fact that the laboratory, even by extirpation, could not always develop positive chemical or hormone values of the glands, necessitated well-directed clinical studies. In other words, many of the valued uses of these extracts had been discovered by clinical trials. The endocrine glands that had been proved to have positive therapeutic value were the thyroid, parathyroid,

pituitary, suprarenal, and corpus luteum. Other glands that had therapeutic values, which, however, were not so generally recognized or accepted, were the ovaries, testicles, and mammary. All of the other several endocrine gland and organ extracts were as yet subject to a longer clinical proof before they could be accepted as meeting definite indications in the treatment of diseased or disturbed conditions. The pituitary gland was primarily of more importance to the female than to the male, while the suprarenal glands were primarily of more importance to the male than to the female. The pituitary, in conjunction with the thyroid, increased in size and hypersecreted just before or during the first part of menstruation, and some of the headaches of women at these times were due to the congestion of the pituitary gland. As the speaker had pointed out very many years ago, the first, so far as he was acquainted with the early literature, mammary gland extracts when fed to young girls who flooded at their menstrual periods or who menstruated too frequently would inhibit this condition. He also pointed out many years ago that the disturbances of the menopause were largely due to disturbances of the glandular secretions, and that if the thyroid ceased its periodic increased activity at the time the ovarian glands diminished their activity, the hot flushes, nervous disturbances, palpitations, etc., would not occur. On the other hand, if the thyroid diminished its activity too rapidly or too completely, the woman rapidly added weight and showed other signs of hypothyroidism. Thyroid treatment was needed when these latter symptoms were present. Sometimes there was a decided loss of tone in women at this period in which ovarian substance frequently acted as a stimulant and was beneficial. Also ovarian extracts were of value at any period when menstruation was scanty or occurred only at long intervals. The corpus luteum was certainly a distinct gland, altho it was located in the ovary. It was a stimulant to the uterus and caused its mucous membrane to become ready for pregnancy, or if conception did not occur, allowed the usual uterine flow. Altho this gland was frequently administered with success in amenorrhea, he did not believe that it caused ovulation and consequent menstruation, but it did cause the uterus to be ready to bleed. This gland was en-

larged and theoretically should be doing more physiologic work during the first three months of pregnancy, altho the woman normally did not menstruate. Its secretion might be the stimulant that caused the placenta to grow properly. Corpus luteum had been frequently administered for the high blood-pressure that occurred in women at the time of the menopause, and with some success; but it was a potent glandular substance, and might lower the blood-pressure more than was desired. In other words, one must watch the results with corpus luteum administration as carefully as with thyroid. During periods of amenorrhea, or at the time of the menopause, or perhaps some time later, pigmentations were likely to occur, forgotten freckles became prominent, and moles developed. These seemed to evidence a disturbed adrenal secretion, probably of the medullary portion of the adrenals. At present the speaker was studying clinically the activity of extracts from the cortical portion and extracts from the medullary portion of the adrenal glands. But administering the substance as a whole would not only many times stop this tendency to pigmentation and clear up brown spots, but would also cause improvement in the circulation, when there was low blood-pressure. Finally, he would be very careful in polyglandular therapy, much as we should be careful in advising or using polyvaccines.

Physiologic Hyperthyroidism.—Harlow Brooks (*Endocrinology*, Mar., 1921) describes a condition under which symptoms of thyroid disturbance appear, symptoms mistakenly regarded as indicating serious and permanent disease. The interesting fact to be deduced from these cases is that treatment should not be directed to prevent or circumvent these efforts on the part of the gland, but that, while in many instances it may be necessary to direct or guide nature's efforts, it is unwise to attempt measures, and particularly radical measures, which inflict changes or limitations of a permanent character on the gland in question. Under the category in question are cited numerous hypothetical as well as actual cases among boys and young men and girls and young women. Doubtless there is no more familiar example of physiologic hyperthyroidism than is frequently

seen in the developing youth. In fact, many of the characteristics which are regarded as a part of youth itself are but probable evidences of thyroid activity. The condition is brought about by an abnormally great demand on the thyroid as the result of developmental growth associated with too much emotional output. When these factors are either diminished within normal limits or directed into other channels, automatically the overaction of the gland, together with other secondary factors that may be associated with it, drops toward the normal; but if the urge is too long continued, or if fixed habits of demand and response be established, the condition will develop either into Graves' disease or will take on a neurasthenic phase likely to ruin the life of the individual. It appears, then, to be but a normal response to an exaggerated or abnormal demand, with the final establishment of a tissue habit. These instances of thyroid activity do not call for surgical or other radical treatment. On the contrary, when these are enforced serious permanent harm is likely to result—either a subsequent hyperthyroidism or an alteration or holding in abeyance of natural and normal tendencies which, when compared to mediocrity, in their full efflorescence lie very close to genius. A failure to comprehend and correctly manage these cases leads to Graves' disease, to neurasthenia or eventual nervous and physical inadequacy.

Disorders of the Pituitary Gland and Their Treatment.

—In a very valuable paper on the "Diseases of the Endocrine Glands" (*British Medical Journal*, Nov. 27, 1920), Murray asserts that when the secretion of the anterior lobe of the pituitary gland fails early in life, growth is arrested, the bones are not fully developed, the external genital organs remain undeveloped, the secondary sexual characters do not appear at puberty, and the skin is soft and smooth.

In consequence of failure of the posterior lobe, sugar tolerance is raised and the subcutaneous fat is largely increased. In the adult this development of obesity is a striking feature. The fat chiefly accumulates in the supraclavicular fossæ, in the lower part of the front and sides of the abdomen, at the back of the arms, over the hips, and upper part of the thighs. The

face, hands, arms, legs, and feet usually are little if at all affected. The distribution of fat thus resembles that seen in *adipositas dolorosa*, but it is painless. The sugar tolerance is increased, so that in some cases as much as 400 grains of glucose, if the stomach will retain it, may be taken without producing any glycosuria. The temperature tends to be subnormal and the pulse to be slow and of low tension. The metabolic rate was frequently found by Plummer to be as much as 25 per cent. below normal. The sexual power is diminished and there may be impotence in the male and sterility in the female, with atrophic changes in the external genital organs. The skin is soft, cool, and smooth. Polyuria occurs in some cases, and so diabetes insipidus has been attributed to a deficiency of the posterior lobe, but recent investigations by Housay and Leschke indicate that this malady is due to a lesion of the tuber cinereum rather than of the hypophysis itself. It is, however, to be remembered that the hypodermic injection of 1 c. c. pituitrin every day or two often controls the polyuria for the time being, as a single dose has reduced the amount of urine passed in twenty-four hours from 13,000 to 1,800 c. c. the next day.

It was naturally hoped that pituitary extract would be able to supply the missing hormones and remove the symptoms in these cases just as thyroid extract does so promptly in myxedema. Some improvement does follow the administration of two or three grains of the whole dried gland several times a day. Cushing has found 12 grains three times a day necessary in one case to produce an improvement. The results have so far been disappointing, and clearly indicate that we are still unable either by oral or subcutaneous administration of pituitary extract to make good the loss of the special hormones secreted by this gland. Apart from these cases pituitrin has proved to be of service in raising blood-pressure in cases of shock or heart failure and in stimulating peristalsis in inertia of the bowel. In obstetric practice, also, as a uterine stimulant it is a powerful tho sometimes dangerous therapeutic agent. It may be given subcutaneously in doses of 10 to 30 minims, or in the treatment of shock it may be added to an intravenous saline injection.

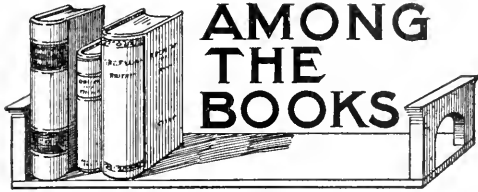
Hypoadrenia.—The syndrome associated with both acute and chronic adrenal insufficiency, as Anders points out in the *Medical Record* (August 20, 1921), has received much recent attention. The former manifests itself suddenly in diphtheria, typhoid fever, influenza, severe measles, malaria, scarlatina, and other acute infections in "rapid syncopes, with hypothermia and asthenia resembling shock." Maranon has found small suprarenals with little adrenalin and cholesterol at autopsy. In these cases in which collapse is found adrenalin extracts of the whole gland, 3 mg. four times daily, should be administered. In severe types, adrenalin administered hypodermically (dose 0.5 mg. every 2 hrs.) is to be used. In the collapse of an etherized individual or one who has lost blood, larger doses than are usual, 5 to 6 mg. administered subcutaneously, are demanded.

In chronic types of hypoadrenia of suprarenal origin, 5 mg. of adrenin per day is indicated. The drug should always be administered in fractional doses at regular intervals thruout the 24 hours. "The injections should never exceed 0.5 mg. at any one point, tho as much as 2 mg. can be given at one time." (Sergent.) The writer has found the use of the desiccated gland administered *per os* without effect in some cases and in such advises a trial of adrenalin by the subcutaneous route.

Treatment of Epilepsy by Extirpation of the Suprarenal Gland.

—Sándor, writing in the *Zentralblatt für Chirurgie* (June 25, 1921), gives detailed reports of four cases of epilepsy, in which he removed one suprarenal gland. The longest interval is only three months, while the other cases are more recent. The results so far are excellent. It remains to be seen how permanent they will be. The first patient operated on had been confined to his bed for several months and during the three months previous to the operation was not free from attacks for more than half a day at a time. Now (three months after operation) he can walk about actively, altho he still has mild attacks about every two weeks. The jerking is confined to his hands and arms. He does not fall down during the attacks. He merely stands still a few minutes, then

walks on. As there was a very slight loss of blood during the operation, the improvement cannot be due to that cause. Sándor thinks that the method is deserving of further trials.



The Nervous Housewife.—The existence of the nervous housewife has long been recognized, but a complete study of her problem has just appeared in the most excellent volume by Abraham Myerson, M. D. (*The Nervous Housewife*, Little, Brown & Company, 1920).

The de-energization of the housewife is attributed to the effects of the disagreeable elements in home-making. The balked desire, the obstructed wish, the offended taste, arise from the increasing desires of women and their dissatisfactions, discontents and discouragements that arise from their varied reactions to their husbands and children, to poverty, and to the results of traditional education which trains for vanity, emotionality, and romantic idealism—all of which constitutes poor training for the realities of home-making.

There is a frank and interesting discussion of the effects of feminism and industrialism as elements that enter in the individualization of woman, and which markedly alters the status *quo ante*. The results have altered not merely woman, but the psychology of the race as manifested in problems of the home, industry, education and matrimony. The doctrine of the dependence and essential inferiority of woman is slowly yielding to a belief in equality and partnership of the sexes. Society is obliged to recognize the altering of the complex relationships which are working out, in part, thru the conditions responsible for the nervous housewife. For this reason men and women, and particularly physicians, should endeavor to understand the phenomena which today represents the unrest of both sexes, part of which is manifest in neurasthenia and psychoneurosis.

He who desires to understand the problems of the housewife, as related to her well-being, may well read and ponder over this most valuable and delightful analysis of the nervous housewife.

Radiant Motherhood.—After the promise of *Married Love* there is immeasurable disappointment in *Radiant Motherhood* by Marie Carmichael Stopes (G. P. Putnam's Sons, 1921). There is a sentimental quality that dominates the presentation of facts and opinions to such

an extent as to give a sense of unreality to much of vital value.

The underlying thesis that potential parents should recognize their serious responsibilities to the race, their children, and themselves is beyond argument. It is natural, therefore, to have her develop the theme of voluntary parenthood with its corollaries of birth control and the sterilization of women unfit for parenthood.

As a volume for American women, it is doubtful if its message is very helpful, tho beyond question there is much to stimulate thought for those interested in prenatal influences, the evolution of new types of womanhood, and the interplay of the emotional development of each generation and the growth of the next generation.

School Children.—The desire to understand school children has given rise to efforts at surveys of various types. *The Methods and Results of Studying School Children*, by Dewey, Child and Ruml (E. P. Dutton Company, price \$5.00), represents an analysis of tests tried out in a New York survey with the purpose of establishing methods which might be reliable for teachers to facilitate the school adjustments of children. The aim has been to experiment with tests that would lead to individual analysis thru determining actual measures of difference in performance. The twenty-three tests employed are fully described. In the second part there is briefly described the value of a study of the environment of the children, while a third part is given over to the study of their physical conditions. There is manifest an effort to establish the correlation between the physical and social factors in the psychologic measurements.

The volume is useful as a basis of study for those interested in determining upon methods for the better experiment of school children. The charts, diagrams, and pictures, which are numerous, are definitely helpful in indicating the thoroughness with which the survey was made. The book is invaluable to educators and physicians who are concerned with the welfare of school children.

Dermatology.—Among the special branches of medicine, dermatology offers unusual difficulties to many students because of the complexity of nomenclature and a lack of harmony in viewpoint. These difficulties are both overcome in an admirable manner in *Dermatology. The Essentials of Cutaneous Medicine*, by Walter James Highman, M. D. (MacMillan Company).

The author has pre-eminently evidenced the point of view of a teacher and has not hesitated to deviate from out-worn traditions in the exposition of his subject. He presents a complete picture of dermatologic medicine as a part of general medicine, rather than as an isolated branch of it. His selection of material is based upon the relative importance of cutaneous diseases, and his discussions are not overburdened with valueless, technical, histologic descriptions or with unnecessary elab-

orations of the history of the specific diseases. Fundamentally, the considerations of treatment, symptomatology and differential diagnosis receive primary attention, but with a particular effort to show their interrelations to the general biology of human nature.

The author merits commendation for his willingness to shake off the shackles of the traditional method and to throw over an unsound nomenclature in the light of modern knowledge. It is striking to find eczema classified under the head of dermatitis, and to note the arrangement of the subject matter under the large sections of pure dermatoses, parasitic diseases and infections, neoplasms and nevi, diseases of the organs of the skin and of the mucous membrane with a final section devoted to syphilis.

The logical arrangement of the subject matter is manifest thruout the volume and particularly wherein classifications are required, as for example, the diseases caused by animal parasites or in the consideration of pigmentary diseases of the hyperkeratoses. The classifications occurring under the head of Differential Diagnoses are exceedingly clear and helpful to the student in organizing his mental pictures.

Dr. Highman has succeeded in creating a most readable book not merely by reason of his originality, but because of an evident effort at literary style which adds to the interest in specific chapters which otherwise might be discouragingly dry. It is unfortunate that carelessness in proof-reading should have led to the introduction of many typographical errors which, however, will undoubtedly disappear in the next edition. Similarly, it is to be hoped that where cross references are made, the page will be indicated rather than the chapter number.

Based upon the inherent merit, originality, carefulness of compilation, and the pedagogic background, together with the rational exposition of dermatology as related to internal medicine, this book merits adoption in all medical schools as one of the best teaching manuals that has been offered to the profession. Despite its trifling mechanical deficiencies, it represents a modern point of view of a dermatologist as primarily that of an internist. With the courage of his convictions and a wise discrimination based upon training and experience, he has presented a volume useful for medical students and general practitioners. He has dared to reanalyze dermatoses and to simplify nomenclature. He has grouped skin diseases in terms of systemic conditions. He has even braved criticism by relegating eczema to the linguistic shelf.

This sensible, complete and logical book on cutaneous medicine establishes a standard and a cutaneous philosophy that makes it worthy of adoption because of its usefulness to general practitioners.

Psychology.—Psychology in its various forms is attracting increasing attention. Probably behavioristic psychology has received less attention than what is ordinarily termed dynam-

ic psychology. As Watson has written in his *Psychology From the Standpoint of a Behaviorist* (Lippincott and Company), behavioristic psychology is determined to discard all statements and ideas "which cannot be stated in the universal terms of science." Its variations from present-day methods of psychoanalysis are obvious. Traditional psychologic methods are not accepted merely because of age. Functioning is to be interpreted in terms of instincts, habits and emotions with such interplays as result in the integration of the individuals. Its field is that of action and its mainsprings.

Unusually detailed description has been given to the nervous systems and the organs of response, muscles and glands. Following this discussion of the emotions, habits and instincts, is a chapter devoted to the organism at work with a discussion of personality and its disturbance. The book is designed to be an elementary text on the general subject considered, and it possesses the weight of authority and the charm of clear writing with an expression of a real human interest in the reactive responses of individuals to their conditioning environment.

For those interested in the work of schools or courts, or those dealing with problems of conduct even in a desultory way, this volume is invaluable. Its concise and thoughtful arrangement makes it enjoyable as well as illuminating, and contributes much to enhance its value to those interested in problems of behavior.

RECENT BOOKS PUBLISHED BY P. BLAKISTON'S SON & CO.

Text-Book of Organic Chemistry.—8vo; liii + 959 pp. Cloth, \$4.00. By Joseph Scudder Chamberlain, Ph. D., Professor of Organic Chemistry, Massachusetts Agricultural College. The growth of chemical industry in this country during recent years has created a new interest in the science and increased demand for special training. This is more noticeable in the field of organic chemistry than elsewhere. This text-book has been prepared to meet the new requirements and to supply the advanced knowledge now required in this field.

Operative Surgery.—8th edition. Thoroly revised. 1628 illustrations—a number are printed in colors. xvii + 1311 pp. Cloth, \$12.00. By John Fairbairn Binnie, A. M., C. M. (Aberdeen), Surgeon to the Christian Church, the Research and the General Hospitals, Kansas City, Mo.; Fellow of the American Surgical Association; Membre de la Société Internationale de Chirurgie, etc. "Binnie has so written the descriptions of various operations that, occupying minimal space, they nevertheless clearly present every important step and detail. This allows room for the inclusion of the description of several alternative methods and variations." The new edition of this work is revised, as all Binnie editions, up to the minute. The greatest changes will be found in the chapters on Thoracic, Abdominal and

Plastic Surgery. A considerable number of new illustrations are included, the total number being 1628.

Radiant Energy and the Ophthalmic Lens.—With 230 illustrations. 12mo. xxvii+ 226 pp. Cloth, \$2.25. By Frederick Booth, South Bend, Ind. Introduction by Whitefield Bowers, A. B., M. D. There has been a need for a brief description of refraction taking into account the modern theories of light and radiation. This work has been prepared to cover this need.

Compend of Physiology.—By J. P. Brubaker, M. D. 15th edition, revised. 26 illustrations. 12mo.; viii+ 262 pp. Cloth, \$2.00. In the march of modern medical progress, no field has been left behind. Physiology has made certain advances which are incorporated in Dr. Brubaker's compend.

Surgery of the Upper Abdomen.—2nd edition, revised. 9 colored plates and 198 other illustrations. Svo. One volume. Cloth, \$14.00. Surgical diseases of the stomach, duodenum, pancreas, liver, its ducts, including gall-stones, their diagnosis, technic of operations, and after-treatment. By John B. Deaver and Astley P. C. Ashhurst, M. D., Associate in Surgery, University of Pennsylvania; Surgeon to the Episcopal Hospital, Philadelphia. "With a painstaking digest of a voluminous literature, are incorporated the personal observations of a surgeon of wide experience, always clear and forceful in the expression of his opinions."—*American Journal of Surgery*. Nearly 100 new drawings have been introduced.

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Clinical Bacteriology and Hematology for Practitioners.—6th edition, revised. 55 text illustrations and 11 plates (some in colors). Svo.; xiii+ 310 pp. Cloth, \$3.50. By W. D'Este Emery, M. D., B. Sc. (Lond.), Director of Laboratories and Lecturer on Pathology and Bacteriology, King's College Hospital. This work will provide the practitioner with such help as may be afforded in his everyday practice by the sciences of bacteriology and hematology. It gives clear and succinct information of the conditions in which these new branches of pathologic work may help him, exact information on how to proceed, and advice as to circumstances in which it is necessary to have expert assistance.

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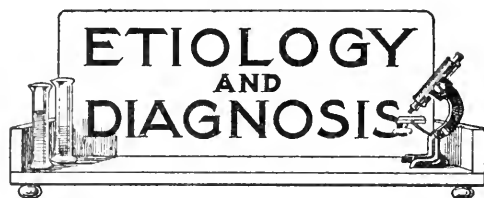
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The Etiology of Common Warts.—Hyperkeratosis resulting in the formation of warts, may be produced by the tubercle bacillus, by the gonococcus, or by the implantation of foreign bodies, like glass or steel. Variot and Jadassohn, over twenty years ago demonstrated by experiment that the common wart was contagious. Recently Wile and Kingery have published experiments which show that the infective agent is filterable (*Jour. Amer. Med. Assoc.*, February 12, 1921). Ordinary lesions of verruca vulgaris were removed by curettage and ground up in a mortar with a small amount of saline. The mash thus obtained was then filtered in the finest Berkefeld filter. The sterility of the resultant filtrate was demonstrated by adding portions of it to various culture media; the remainder of the filtrate was then injected subcutaneously into several human subjects. Following an incubation

period of four to eight weeks, extremely small papular lesions appeared at the site of the injections of the sterile filtrate. Some of these lesions, after remaining stationary for a time, underwent spontaneous involution. Others gradually increased in size until they had attained the dimensions of a splitpea. Using the lesions thus produced a second generation of growths was obtained whose histological characters were those of typical warts.

Syphilis as an Etiologic Factor in Epilepsy.—Bambarén (*Siglo Medico*, May 21, 1921) has sought to determine the extent to which syphilis, inherited or acquired, is a factor in epilepsy, citing testimony for and against it, including a number of articles in *The Journal of the A. M. A.* and Levy Bing's thirteen cases of essential syphilis with an unmistakable history of syphilis in all, and remarkable improvement under specific treatment. He remarks in conclusion: "How difficult it is for new ideas to gain a foothold," as his comment on Strümpell's denial that inherited syphilis has ever been conclusively demonstrated as a factor in essential epilepsy.

Alcohol and Syphilis as Causes of Mental Disease.—Kirby (*Jour. of the Amer. Med. Assn.*, April 16, 1921) bases this study on data obtained from Bellevue Hospital and thirteen New York State hospitals located in various parts of the State. The data presented regarding the past and present rates of incidence of alcoholic and syphilitic mental disorders in these hospitals would seem to justify the following conclusions: Alcoholism has declined perceptibly in the general population during recent years, the beginning of the decline antedating by some years the restrictions due to war conditions and the passage of the federal prohibition amendment. Coincident with this decline, there has occurred a remarkable fall in the number of alcoholic psychoses, the lowest figure on record having been reached in 1920. During the first period of the World War, there was a noticeable recrudescence in both alcoholism and alcoholic mental disturbances; but after the United States entered the war in 1917, there was again a sharp fall which, so far as alcoholic psychoses are concerned, has not been again interrupted. Psychoses due to syphilis reached the highest point of which we have a record in the year 1918. Since then a decline in the relative and actual number of cases has occurred which, in view of the increase of population, may be regarded as at least a hopeful sign. Whether or not the more thoro and scientific treatment of syphilis in its early stages will bring about a further reduction of neurosyphilis and syphilitic psychoses is a question to be answered in the future. From the standpoint of mental hygiene, the situation may be regarded as encouraging. A notable advance has been made in the direction of controlling one of the outstanding causes of mental disease, namely, alcoholism, and as

regards a second great cause of mental disease, namely, syphilis, there are indications that education, prophylaxis and improved methods of treatment are beginning to yield some results, is yet slight, to be sure, but nevertheless sufficient to be considered a sign of progress.

The Diagnosis of Acute Abdominal Conditions.—Jennings expresses the opinion (*Long Island Medical Journal*, Feb. 1921) that errors in diagnosis are most often due to failure to get a good history, or failure to interpret symptoms and physical findings because a certain picture is carried in mind, or in some few instances a superficial examination or none at all. Even with careful history taking, careful examining, and careful case analysis, mistakes will occur. He cites a few illustrative cases, and emphasizes that rigidity is not an essential concomitant of acute abdominal diseases, that pain is always a symptom demanding attention and respect; that the pelvic appendix does not behave in the classical way; that the stereotyped text-book description of ectopic is often seen in the case that is not ectopic; that lumps in the femoral region in women of advanced years, no matter how trivial or innocent they may seem, are generally femoral hernias, and that lesions of the abdominal wall may present symptoms suggestive of intraabdominal disease.

Cause of Peritonsillar Abscess.—Schoonman (*Annals of Otolaryngology and Rhinology*, March, 1920) discusses the possibility of peritonsillar abscess resulting from caries or inflammation due to delayed eruption and impaction of a wisdom tooth. In the cases observed, it was noted that the pus collection did not point as usual in the supratonsillar space, but rather in the region of the base of the anterior pillar and somewhat lateral to it. Excessive trismus was a more or less constant symptom. The patients being quite unable to separate their teeth, making examination necessary thru the vestibule of the mouth and the administration of appropriate treatment most difficult. Mention is made of the possibility of a tonsillar or peritonsillar abscess occasionally following operative procedures on the nose, irrespective of antiseptic precautions. Chronic suppurative otitis media is also referred to as a causative factor, especially of the recurrent type of abscess. Patients thus afflicted will sometimes note a sweetish taste in the mouth, which is caused by the middle ear discharge reaching the pharynx via the Eustachian tube and in this way causing infection of the tonsil and the peritonsillar region.

The Early Diagnosis of Typhoid and Paratyphoid Infections.—Goeckel (*Journal of Laboratory and Clinical Medicine*, January, 1920) identified typhoid and paratyphoid bacilli in the urine in three cases and states that it is pos-

sible to identify these organisms by agglutinins before the blood shows a positive Widal reaction or a typical count. This method is said to be more definite than is the identification of agglutinins in the patient's blood serum, and is especially indicated in patients who may have a natural or acquired agglutinating capacity due to previous infection or thru the use of vaccines.



Bad Effects of Bromid Treatment for Nervous Diseases.—Hunt (*New York State Journal of Medicine*, July, 1921) points out that there are certain types of epilepsy in which the use of bromid aggravates both the irritability and restlessness preceding the seizure as well as the depression following. The toxic and exhaustion cases react unfavorably to the administration of bromid. Mental cases are susceptible to bromid intoxication. Patients suffering from arterial changes are peculiarly susceptible to bromid as they are all kindred drugs. Alcoholics are susceptible to bromid intoxication. Certain persons display an idiosyncrasy to bromid. In a few cases of chronic heart disease not only do small doses of bromid depress and enfeeble the heart action, but if long continued, give rise to the parietic symptoms so common in this condition. Therefore, bromids are very far from harmless. Their prolonged administration will give rise to both physical and mental symptoms, the latter a condition akin to paresis. They tend to aggravate the irritability and mental deterioration in longstanding cases of epilepsy. Toxic cases develop more rapidly on the administration of bromid. Bromid may mask the symptoms of mental disease just as thoroly as does opium in surgical conditions.

Water Treatment in Diarrhea.—Donnelly (*New York Medical Journal*, August 3, 1921) has employed sterile solutions of normal saline, five per cent. glucose, three per cent. sodium bicarbonate, and a glucose-acacia solution, made up of glucose five grams, acacia ten grams, and normal saline sufficient to make 100 c. c. in the treatment of cases of extreme dehydration. The injections were made into the longitudinal sinus under the strictest surgical aseptic technique. By this method he has not experienced any complications or serious after-effects; on the contrary, many of his results have been most striking in their beneficial effects. The only contraindications to this method are the various forms of infectious dermatitis, particularly if the scalp is involved. After having assured himself by animal experimentation that

intraperitoneal injections were devoid of serious risk, he began using this method. After excluding abdominal distention and the possible presence of an overdistended bladder, with the child in the recumbent position, the injection is made thru the median line just below the umbilicus. Usually 200 c. c. may be given to young infants in this way. The fluid should not be introduced too rapidly or in too large quantities so as to avoid possible embarrassment to the diaphragm and heart. A hypertonic injection of glucose (ten to sixteen per cent.) given intravenously after the intraperitoneal injection causes quicker absorption of the saline solution from the peritoneal cavity and urine excretion increases earlier than otherwise. Post-mortem examinations on infants who had received intraperitoneal injections from a few hours before death to weeks previously failed to show any evidence of injury or infection of the peritoneum or abdominal viscera. The advantages of the intraperitoneal method of administering fluid to the dehydrated infant are: (1) Administration of large amounts of fluid at one time. (2) The fluid is quickly absorbed. (3) The method is a simple procedure, it is practical, and permits of repeated injections at frequent intervals with minimum risk to life. By this means one can help tide over the necessary period for readjusting the infant's feeding and gastrointestinal tract.

The Use of Quinine by Intramuscular Injections.—Dudgeon in his valuable paper on the treatment of malaria in a recent issue of the *Journal of the Royal Army Medical Corps* takes up the important question as to whether intramuscular injections of concentrated or dilute solutions of quinine are advisable. He sometimes used intramuscular injections of the alkaloid in 60 per cent. alcohol, studying as well the question of the fixation of quinine in the tissues. Altogether his research may be considered possibly the most exhaustive one which has been made along these lines. It is illustrated by a number of interesting and well-executed plates.

The conclusions reached by Dudgeon are as follows:

1. Concentrated preparations of quinine produce more intense necrosis than dilute, but dilute preparations such as are of practical utility excite edema and necrosis at the site of inoculation. The difference between these two methods of quinine inoculation is not of sufficient value to justify active opposition to the methods commonly employed.

Injection of quinine in solutions so dilute as to avoid edema and tissue necrosis is not of practical utility in the human subject.

2. A concentrated solution of quinine is absorbed rapidly from the tissues as shown by chemical analysis, even in patients who are in *extremis*. It is not apparently stored as in liver, kidneys, or heart muscle.

3. It is essential to realize that tissue necrosis—spreading edema and local blood destruction—is produced by the solvents employed

for quinine administration, and the effects are only slightly inferior to those excited by quinine salts and the alkaloid.

4. No advantage was obtained by the addition of olive oil or fat, or by injecting the alkaloid dissolved in alcohol or ether, whether in concentrated or in a dilute solution.

5. Tissue necrosis occurs immediately and persists for a considerable period. In some instances the fibromyositis which results is associated with a fibroneuritis which causes various symptoms definitely related to the pathologic processes.

6. Necrosis of blood-vessels in the area of inoculation is a common result. This leads to small hemorrhages into the tissues, and has caused severe hemorrhages in the human subject, and experimentally, from rupture of a large vessel. The destruction of the vessel wall is associated with an accompanying thrombosis.

7. An extensive necrosis produced by an intramuscular injection of quinine in the neighborhood of an important nerve trunk may result in nerve palsy. Experimentally, complete degeneration of the great sciatic and other nerves has been produced apart from any direct injury to the nerve at the time of the inoculation. In the human subject this disastrous result may be due to spreading edema and extensive tissue necrosis.

8. Experimentally, no leucocytosis has ever occurred from quinine injections; on the other hand, a leucopenia may develop, while an increase of large hyaline cells has been recorded on several occasions.

9. No essential differences in the degree of tissue necrosis from intramuscular injections of quinine in malarial fever or malarial fever associated with blackwater fever were observed.

10. Repeated intramuscular injections of quinine should not be given into the same area of muscle, or tissue directly adjacent, as otherwise permanent injury of muscle or nerves may occur.

Last of all, Hehir points out that every patient who has chills and fever is not necessarily suffering from malaria, and asserts that no such case should be so treated until the parasites are found in the blood. He reports the case of a patient suffering from intermittent pyrexia for twelve days with negative blood findings, in whom it was ultimately found that there existed a putrid alveolar abscess, which on being opened was followed by complete relief, yet this patient had received 360 grains by the mouth and four intramuscular injections of 10 grains each of the bihydrochloride; and again he reports his own case in which he was given 45 grains of quinine daily for three days when suffering from sandfly fever and no malaria.

The Treatment of Scarlet Fever.—Itching is very troublesome during desquamation in scarlet fever, and to afford relief, Brooker Miller (*Therapeutic Gazette*, May 15, 1921), advises the use of warm baths followed by cacao butter inunctions. Do not use phenolated

ointments, as it is claimed that the absorption of the carbolic acid present in such ointments might act as an irritant to the already irritated kidneys. However, I believe this theory is rather far-fetched, (1) because the amount of phenol present is so small, and (2) the absorption on the part of the skin in cases of scarlet fever is so slight.

The diet should be liquid and nourishing. If the child is breast-fed, have the milk pumped from the breast and fed to the child. If a bottle baby, dilute one-half with water if on straight milk, because whole milk constipates and causes tympanites, or give half milk and half Vichy water, because alkalies help to neutralize the acidity, which is one of the causes of the nephritis. Orange juice is very beneficial. Lemonade is good, especially if one adds to every pint one drachm of cream of tartar. Cereals may be cautiously added, and water should be given freely. Avoid the use of salt and exclude soups and bouillon from the diet.

As to the toilet of the nose and throat: wash, spray, or gargle with alkaline solution, according to the age of the child. If the patient be old enough to gargle, this should be done; if, on the other hand, it be too young or that, but old enough to open its mouth and put out its tongue when told to do so, then swabbing may be employed, while, if it be too young to do this, spraying with an atomizer would be better. Potassium permanganate gr. $\frac{1}{2}$, water $\frac{1}{2}$ j, is a good solution to use four times a day. Do not use potassium chlorate or the sore throat because of its well-known irritating effect on the kidneys, should any of it be swallowed or absorbed. After using the alkaline solution instil a few drops in each nostril of an oily preparation, such as

R Menthol, gr. x;
Phenol cryst, gr. ij;
Ol. eucalypt., f5ss;
Liq. alboleni, q. s. f5ij.

My advice is to use little medicine and lots of water. The one and only drug usually necessary to employ is potassium citrate in 2- to 3-grain doses, or liquor potassii citratis 15 to 30 minims, three times a day. Do not use opium too freely. The skin in scarlet fever is not active, and therefore there is no use for a cathartic, and as for a diuretic, remember that the kidneys are probably already damaged. If renal inflammation develops, poultices applied over the kidney region may do good. Make a flaxseed poultice with 16 parts flaxseed and 1 part mustard, or 4 parts flaxseed and 1 part digitalis leaves. Put on every four hours during the day, and keep on hot for half an hour, or stimulation, when needed, caffeine-sodium benzoate in $\frac{1}{2}$ -grain doses hypodermically is among the best. Digitalis and strophanthus, the latter especially in very young children, may be employed by mouth.

tis of the knee in a woman of 60. He became convinced that the pains were from neuritis, and the temporary relief from transient blocking of the nerve encouraged him finally to sever the nerve fibers innervating the capsule. He describes his technic for this and the benefit therefrom. There has been no return of the pains during the year since, and even if they should return later this year of relief justifies this symptomatic intervention. It restored practically the use of the knee.

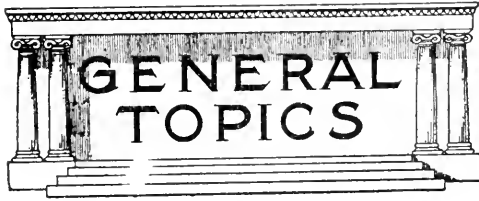
Cerebral Hemorrhage in the New-Born.—Cerebral hemorrhage, according to Irving (*Boston Medical and Surgical Journ.*, May 26, 1921), is the most common cause of death in the first week of infancy. Warwick found it present in 50% of autopsies on the still-born and the new-born, and Spencer in 40%. In over 12,000 consecutive births at the Boston Lying-In Hospital, the diagnosis of cerebral hemorrhage was made in 41 cases, which is about once in 300 deliveries. This figure gives no proper idea of its frequency as only those cases have been considered which were proved by autopsy or in which, during life, the signs of intracranial bleeding were unmistakable. Still-births and deaths from asphyxia, or from unexplained causes, were not included.

Of late years, our notions regarding the causes of cerebral hemorrhage have undergone considerable change. In the older text-books, the trauma of operative delivery looms large, and in many it is the only etiologic factor mentioned. We now know there are at least three ways in which cerebral hemorrhage of the new-born may originate. These are, (1) from intrauterine asphyxia, (2) as one of the many manifestations of hemorrhagic disease of the new-born, and (3) from the trauma of either operative or spontaneous delivery.

In this condition prophylaxis is all important. The fetal heart should be under close observation during the entire first and second stages, and the obstetrician should stand ready to terminate labor, should it show any alarming variation. Since a number of our cases occurred when the first stage lasted over 24 hours, we have come to view inertia, or lack of progress, with apprehension, and often hasten dilatation by means of the Voorhees bag or by partial manual dilatation under light anesthesia. In none of our cases of cerebral hemorrhage had pituitrin been used. This drug has been employed very little at the Lying-In Hospital and never in larger than three minim doses. Altho cerebral injury following its use has been reported from other clinics, it is only fair to say that they have followed larger doses injudiciously used. We have had no bad results following its use in small doses, when the presenting part has been well in the pelvis and dilatation well under way. In the second stage, we do not allow the head to remain on the perineum for over an hour. At the expiration of this time forceps are applied and the infant extracted. We do not believe that we are subjecting the child to any risk from

Treatment of Arthritis Deformans.—Wassink (*Nederlandsch Tijdschrift v. Geneeskunde*, May 21, 1921) calls attention to his success in relieving a distressing case of deforming arthri-

this procedure, but that, on the other hand, we are taking all possible measures to protect it from injury.



Prognosis in Nephritis.—Webster in the *Long Island Medical Journal* (June, 1921) discusses the varied and picturesque classification of the nephritides, and says that after all the question is not whether the patient is suffering from acute nephritis, or from subacute nephritis, or from chronic nephritis with edema, but if he will recover from his present condition and how long he will live. In analyzing the case of any patient in whom the presence of casts or albumen, or blood elements in the urine has attracted attention to an inflamed kidney we must consider not only the chemical and microscopical condition of the urine, but the blood chemistry and the subjective and objective symptoms of the patient, and more particularly the changes in the heart and blood-vessels. It is in the proper estimation of these factors and their relation to one another that the present state and future probabilities of the individual depends. Because in many cases the blood-pressure is high one must not fall into the fallacy of regarding high blood-pressure as an essential symptom, because many fatal cases show low blood-pressure. Because albumen and casts are usually present one must not feel too well assured of a harmless condition if albumen and casts are not present, for fatal cases with this finding are by no means rare. Because of extensive edema one should not despair of the patient's condition, because such cases sometimes clear up completely and make a clinical recovery. For purposes of clinical study it is well to group cases according to the length of time that symptoms have been present; according to the age of the patient; according to the presence of disease of other organs, and according to the intensity of the symptoms. Tho this is a loose and elastic method, it serves as a point from which to start. There is one distinct picture which should be excluded from among the nephritides where it has long been placed, and that is the considerable group of people of advanced years who show a constantly high blood-pressure, ranging about 200, with the passage of large amounts of watery urine of low specific gravity, containing an occasional trace of albumen; hard and tortuous arteries; more or less compensatory cardiac changes, and some evidence of nervous instability. In spite of their disability they live to a ripe old age. In diagnosis there is sometimes failure to appreciate the frequency with which anorexia, nausea, vomiting, and intestinal gas are associated with nephritis; these symptoms should

be regarded as definite finger-posts pointing to the kidney as well as to the gastrointestinal system. Focal infection, as a factor in causing kidney inflammation must not be overlooked.

Psoriasis.—Unna (*Wiener Klinische Wochenschrift*, June 9, 1921) gives a terse summary of the history of our knowledge of this dermatosis and its autonomous position, with especial reference to the differentiation of psoriasis and seborrheic eczema. In certain cases this appears almost impossible clinically. The latter appears to represent a gradation between essential psoriasis and dry eczema. Between these two extremes the greatest variability of eruption occurs, which one may term atypical psoriasis or atypical seborrheic eczema, according to the case. An autonomous psoriasis is therefore, more or less in doubt. From another angle there are analogies between psoriasis and *trichophyton*, clinical and therapeutic, which suggest a possible mycelial origin of the former. We have long known that psoriatic papules may be produced artificially—for example, by scratching—which suggests inoculation with some microorganism. The behavior of erythema multiforme, however much it suggests a parasitic origin, has always lacked the serpiginous component seen in known parasitic affections. A plaque grows peripherally and it clears in the center and several rings may coalesce to form characteristic patterns, but, as stated, there is none of the serpiginous extension seen in known parasitic affections. But in psoriasis we see serpiginous extension. There is, in fact, abundant evidence that psoriasis cannot owe its patterns to vascular or nervous influence. Quite suggestive of the parasitic origin is the apparent lurking of the causative agency in unhealed lesions from which new infection constantly occurs; and successful treatment is bound up in the thoroughness with which these foci are sought out and cured and in the care of the skin from a prophylactic standpoint. In the case of psoriasis universal conditions are unfavorable, especially as to best remedies, pyrogallol and chrysarobin, are not applicable on so great a scale. The hand may be treated with pyrogallol in the possibility that autoinfection may be antagonized. The body at large may be treated with a mixture of chrysarobin, salicylic acid and ichthyol but only for a short time or until a certain inflammatory reaction is produced. A zinc sulphide paste is then used to follow up, and the skin should clear up, with the exception of certain obstinate lesions, which should receive intensive treatment. When the subject seems clean, the skin should be anointed with a prophylactic ointment or oil containing salicylic acid, white precipitate, or other antiparasitic

The Legitimate Use of Alcohol in Medicine.—Because of recognized harmful action and effects when wrongly used, it has been asserted that alcohol is always a poison, and has

place in legitimate medicine. That such a decision is inconsiderate, partisan, and unsafe. Stockton has the courage and strength of character to state (*Medical Record*, Aug. 13, 1921), and in the face of the rabid, denunciation of the opponents of alcohol, he well says that the arguments advanced against the therapeutic use of alcohol might be raised as justly against the employment of any really powerful drug, because it is competent to do harm is no reason that it is not competent to do good.

In considering its field of usefulness in general medicine, we cannot omit its importance as a substitute for food. By giving alcohol we often tide the patient over a critical period when other means of sustenance fail. To deny this is unreasonable. This is true in gastrointestinal diseases when there is faulty assimilation. When from exhaustion the digestive apparatus is so far crippled that it cannot digest or absorb the required amount of other forms of food, the administration of brandy, whiskey, or wine will save life, and to omit approaches criminal neglect.

In diabetes, when it is incumbent to lessen the caloric intake of carbohydrates or of fats, and of both, alcohol in a certain class of cases serves an excellent purpose; nothing else can replace it. This is true at times in acidosis not related to diabetes.

In old age, when the organs have undergone degeneration from senility, so that there is loss of vitality and functional power, there can be no doubt of the very great importance of alcohol. Used judiciously and with the same care which is exercised in the prescription of other drugs, alcohol often enables an aged person to live on, not only with greater functional power, but with comparative satisfaction. Thus the patient is spared misery of mind and body, and the moral atmosphere of the home is improved. Careful and elaborate studies in nutrition may guide us to accomplish a great deal without the assistance of alcohol, but a satisfactory result may be more easily obtained by having recourse to it, and at times the benefit which follows its regulated administration can be attained by no other means.

In convalescence, alcohol preferably should be given in the form of a suitable wine, and its administration carefully guarded by the physician to avoid the well-known habit-forming tendency of the drug, especially when the patient belongs to the type of which inebriates are made. Long before the patient is dismissed alcohol should be discontinued and replaced by scientific feeding and psychotherapy. Alcohol should not be given in quantity greater than that which the organization can readily oxidize. The physician must act as the mentor and educator when prescribing the drug, somewhat as with opium or hypnotics. Needless to say, the popular use of alcohol as a preventive and remedy for nearly all illnesses and in case of injury should be most strongly condemned. The harm from the thoughtless employment of this agent has led to its opiorium.

Finally, it is held that alcohol is an important, sometimes indispensable remedy, that

it should be included among the drugs in the Pharmacopeia, that it should be prescribed with discrimination and with a full sense of responsibility, without prejudice, and with careful record of results. The present legal restrictions to the therapeutic employment of alcohol place upon physicians an unnecessary burden and add perplexity to our efforts in relieving human suffering.

Pellagra.—At this period of the recrudescence of pellagra, especially in the South, Perdue says it is well to remember:

1. That pellagra is caused by drinking soft or "freestone" water coming from clay soils.

2. That pellagra is prevented by drinking hard or limestone water whose hardness is due to the carbonates of lime and magnesium.

3. That pellagra is cured by the hypodermic administration of a ten per cent. solution of neutral sodium citrate. Inject one cubic centimeter daily for thirty days. Then on alternate days for thirty days longer.

Sleep Requirements of Children.—No child nutrition worker, says the U. S. Public Health Service, can hope to get satisfactory results without insisting on enough sleep for her charges. Besides damaging the nervous system, late hours cause "sleep hunger" and make children nervous and fidgety. The Service commends the following precepts just issued by the London County Council: School children aged four years need 12 hours of sleep a day; aged five to seven, 11 to 12 hours; eight to eleven, 10 to 11 hours; and twelve to fourteen, 9 to 10 hours. Children grow mainly while sleeping or resting; do you want yours to grow up stunted? Tired children learn badly and often drift to the bottom of the class; do you want yours to grow up stupid? When children go to bed late, their sleep is often disturbed by dreams and they do not get complete rest; do you want yours to sleep badly and become nervous? Sufficient sleep draws a child onward and upward in school and in home life; insufficient sleep drags it backward and downward; which way do you want your child to go? Tiresome children are often only tired children; test the truth of this. That a neighbor's child is sent to bed late is not a good reason for sending your child to bed late; two wrongs do not make a right. Going to bed late is a bad habit which may be difficult to cure; persevere till you succeed in curing it.

Relations of the Septic Mouth to General Diseases.—Trey and Ruppe (*Journ. de Méd. et de Chir. prat.*, May 25, 1921) have carefully studied this problem and reached the following conclusion that:—

1. Buccal septicemia is a definite entity.

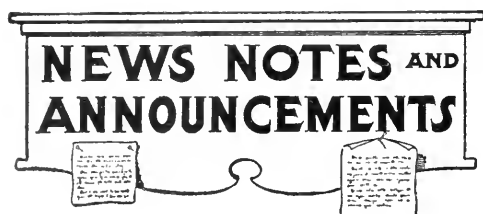
2. Just as pneumonia may be set up by increasing the virulence of the pneumococci present in the mouth, so a dental abscess occurring in a susceptible patient may be the starting

point of infectious symptoms, although it is not of frequent occurrence.

3. The same applies to chronic infectious symptoms arising from the mouth and teeth. These are the foci to attack. It is a matter of elementary hygiene, but the part they play in the genesis of diseases ought to be determined by long and careful research work.

4. Zones of bony rarefaction shown by X-rays do not always indicate abscess, but form an additional symptom of value, showing the condition of the peridental layer.

5. The extraction of all carious teeth is not good practice. The mouth and teeth should be put into, and kept in, conditions of usefulness and health.



Philippine Government Studies New York Health Methods.—Dr. Juan Fernando of the Philippine Health Service has spent the last six months in making an intensive study of the methods in use in the New York State Department of Health.

Child Hygiene Director Dies Suddenly.—Dr. M. Edgar Rose, Director of the Division of Child Hygiene, of the State Department of Health died suddenly from angina pectoris on June 22, in the offices of the Department. Dr. Rose was a graduate of the College of Physicians and Surgeons of New York City and was formerly a medical officer in the navy.

State Health Department Uses Social Hygiene Field Car.—The Venereal Disease Division of the State Health Department has secured the use of the Social Hygiene Field Car for use thruout the State. This car will be sent to counties where the Home Bureau Agent makes a request for its use and agrees to arrange for at least one lecture for men each day it is in the county. Lectures will be furnished by the Division. Ten counties have already requested the use of the car.

An Appeal for Help by Bronx Physicians.—The group of medical practitioners of Bronx Borough of New York City, constituting the newly organized Bronx Physicians' Club, are seeking assistance to enable them to erect a building, to be called the Bronx Academy of Medicine at a cost of half a million dollars. The building will contain a library, a laboratory, room for medical meetings, an auditorium for public lectures on medical subjects, a gym-

nasium, swimming pool, bowling alley, restaurant, tennis court, nurses' room, and rest room. In order to obtain funds for carrying out this ambitious project it is proposed to have a bazaar on October 15-22, to seek donations from philanthropic laymen, and also to ask every physician in this and neighboring States to contribute at least \$1 each. The committee soliciting donations consists of Drs. Isaac Rich, chairman, B. A. Kantrowitz, vice-chairman, and G. A. Rueck, secretary.

Chemical Love.

Said Atom unto Molly Cule:
 "Will you unite with me?"
 And Molly Cule did quickly retort:
 "There's no affinity."
 Beneath Electric light plant's shade,
 Poor Atom hoped to meet 'er,
 But she eloped with radical Base
 And now her name's Salt-Peter.

—The Chemist.

Legal Liability for Transmitting Infection.—Personal responsibility for the transmission of venereal disease has now been upheld in several different phases by both civil and criminal courts, says the U. S. Public Health Service. In Oklahoma a man has been sentenced to five years in the penitentiary for infecting a girl with syphilis. In Nebraska the court upheld a doctor who warned a hotel keeper that one of his patients, a guest at the hotel, had syphilis and had refused treatment and was consequently a menace to the public health. In North Carolina a woman has been awarded \$10,000 damages against her husband for similar infection and the Supreme Court has upheld the judgment.

The Nebraska case is important because it asserts that a physician's duty to protect the public health may, under certain circumstances transcend his duty to hold his patient's confidence inviolable. The North Carolina case is also important because it sets aside in this particular case the legal barrier that prevents a wife from testifying against her husband and bringing suit against him.

All three cases are valuable in counteracting incorrect statements, often made, that the venereal-disease law falls almost exclusively on women and lets men go free. State laws of course govern in all such cases, but the fact that every state in the Union has now adopted many, if not all, of the venereal-disease laws gives ground for expecting similar action in other states. Certainly the wide dissemination of the three decisions should go far to cure diseased persons who deliberately expose others to infection.

Twenty states have already adopted laws forbidding persons with venereal disease to marry. Seven of these, New Hampshire, New Jersey, North Carolina, Oregon, Washington, and West Virginia, having acted during the present year sessions. A similar bill is now pending in Florida.

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

Longevity of College Women.—In the September issue of *School Life* is an editorial entitled "Education Prolongs the Lives of Women." The basis of the article is a study by Myra M. Hulst, of the American Red Cross, of more than 15,000 graduates of three colleges for women. The death rate between the ages of 20 and 64 years was found to be only 3.24 per thousand, and for college women, between 25 and 34, the death rate was 2.77 per thousand, while for women in the general population it was 6.10 per thousand.

It is perfectly understandable that in a selected group, such as graduates of colleges, the general standard of health should be high and the general mortality rate low. Considering, however, the question of environment, the correction of discovered defects during student days, and the favorable conditions for physical exercise, it is not an unexpected finding. This by no means, however, indicates that the prolongation of the lives of women has been due to education, *per se*. Rather may it be said that the type of women who are able to go through college successfully must possess an inherently greater vitality than the average woman. Or it might be urged that any group of women coming from a favorable environment with an excellent economic and social background are more likely to be protected in all the elements which tend to improve health and to create an interest in good living conditions.

This criticism of a conclusion does not mean that education is not a productive element in decreasing the morbidity and mortality rates. It is patent that public health administrators are placing more stress upon educational measures, and that school systems are being utilized for the purpose of inculcating correct habits of living among the growing population. All this is a step in the right direction and tends to make manifest the advantages of education, as a factor in controlling the mortality rate. The decrease, for example, in tuberculosis, the lowering of the infant mortality rate, the improvement of numerous defects in the growing generation are marked evidences of the advantages of education and educational publicity. Similarly, if a contrast were made of the mortality rates of women graduates of colleges living in sheltered professions or actively engaged in industry, there probably would be marked variations in the mortality rates thus determined. Incidentally, it might be remarked that in so far as college women are concerned, their health is undoubtedly considerably enhanced by reason of the low birth rate that they possess.

It is doubtful whether it is accurate or just to select education from among all the variables as the dominant factor in promoting the longevity of college women. There must be urged, however, a greater need for the further utilization of practical education for the benefit of public health.

Greater attention to the practical training of the 99½ per cent. of our school population who fail to enter colleges promises a more adequate return to communal health than the efforts in behalf of persons who are graduated from our colleges. There are so many elements to be considered that, for the time being, one is only justified in the statement that graduates of colleges for women possess a lower mortality rate than women of the same ages in the general population.

Diagnostic Terms.—In order to discuss the comparative prevalence of disease for mortality rates for particular diseases, it is essential that there be a uniform nomenclature. Great advances have been made in the matter of establishing an International List for use in connection with statistics pertaining to health, but one finds a comparative neglect of the table on the part of physicians in general. As a specific illustration of this, one may call attention to the 1920 Biennial Report of the State Board of Health of Arizona. The report itself is exceedingly valuable, particularly in connection with its exposition of the work that has been done in connection with the program for the control of venereal diseases, and the excellent report on various surveys of housing conditions in different portions of the state. Unfortunately, there is no effort at correlation of diseases with either housing conditions, room congestion, or other social facts. The report is marred, however, by the reports of survey clinics wherein a variety of diagnoses appear that are thoroly inadequate and unscientific.

It would be difficult for one comparing facts relating to disease to interpret diagnoses in the vernacular. Medical men

should utilize a medical terminology. There may be some excuse for a statement like "post-influenza and general debility," but what is the interpretation of "tonsils and adenoids." Every child possesses them unless they have been removed. The problem is whether they are hypertrophied or diseased in some manner. Does "focal infection" refer to teeth, or a localized collection of pus around the nails? How much is to be learned from the expression "diseases of the eye"? The worst example of diagnostic irrelevancy is involved in these three diagnoses: "nasal pathology," "ear pathology," "throat pathology." Obviously, one might be referring to a deviated septum or hypertrophied turbinates; inspissated wax, or otitis media; diphtheria or chronic pharyngitis. The term "gastric disturbance" might be gastritis, pyloric stenosis, or carcinoma. "Thyroid and goiter" may mean much or little—a pathologic enlargement of the thyroid, a colloid goiter or exophthalmic goiter. To group diagnoses as "gynecologic cases" is to cover up all real knowledge concerning the actual disease states from salpingitis to vaginitis. The classifying of diseases under the head "nothing organic" is without defense. The use of the word "catarrh" even with a descriptive adjective is poor usage, but without even a descriptive term it conveys no meaning of value. Another expression which strikes one as worthy of consideration, because of its ambiguity, is "operations resulting from diagnoses."

These shortcomings in diagnostic nomenclature are too flagrant to be cast aside without comment. They represent a weakness in the system of classifying disease states all the more noticeable in as much as the deaths in the State of Arizona are classified according to the International List. Incidentally, the splendid experience

which physicians thruout the state have given in their gratuitous service to the state clinics deserves highest commendation, despite these criticisms of their method of recording diagnoses. There is no question that their willingness to cooperate with the State Superintendent of Public Health has awakened an increasing interest in personal well-being, and that they have been effective factors in arousing their respective communities to the importance of providing adequate measures and equipment for guiding and serving the health of the people. Even this achievement does suffice as an excuse for the failure to record their results and diagnostic experiences in terms that are intelligible to students of health thruout the country.

Vaccination. — Smallpox has been slowly increasing in the United States, with a degree of definiteness that indicates the need for some careful attention to vaccination. In a Study of Smallpox in Twenty States From 1915 to 1920, by John A. Foral and James P. Leach, *Public Health Reports*, August 19, 1921, there has been a careful exposition of the distribution of the increase of smallpox and its relation to vaccination, especially of school children. This is a most illumining investigation and its conclusions warrant thoughtful consideration.

It is patent that the freedom of the United States from epidemic smallpox depends upon the voluntary submission of the population to laws dealing with vaccination. In the first place, the promulgation of compulsory vaccination laws is based upon an established experience, supported and corroborated by statistical information relating to the control of smallpox epidemics. There is the graphic evi-

dence of the decline of smallpox in countries where mandatory vaccination exists and the freedom of communities from visitations of this plague when there is recognition of the value of vaccination together with a willingness to undergo its protective immunization. Once again, it is evident that when public sentiment backs up legal enactments in a state that demands compulsory vaccination, that state may be disregarded as a potent focus for the outbreak of smallpox. When vaccination becomes discretionary with local authorities, in so far as enforcement is concerned, the smallpox rate tends to rise; while in states where there is no law, smallpox reaches a high rate.

In New York State, for example, the average rate during the five-year period mentioned per thousand population was 0.026. In New York, the law provides that vaccination shall be a condition of school attendance in the cities of the first and second classes, and in other parts of the state, when smallpox has been declared epidemic by the state commissioners of health.

In Michigan, the average rate was 0.82 per thousand population. The law provides that health officers may offer free vaccination to children not previously vaccinated and to all others who have not been vaccinated within the preceding five years. The law is permissive and not mandatory, wherefore vaccination is not made a condition precedent to school attendance in the absence of smallpox in the community. If smallpox develops in a school, the school is "closed for the vaccination of the children, and they are not permitted to return until successfully vaccinated; and in the event that they refuse vaccination, they are quarantined sixteen days."

In Kansas, the average rate of smallpox is 2.00 per thousand, with a maximum of 4 and a minimum of 1.2. According to the rules of the State Board of Health, unvaccinated children are excluded from school for twenty-five days after the appearance of smallpox in a community. There is no compulsory vaccination law. Contacts are quarantined for twenty-one days unless successfully vaccinated. It is striking that approximately 80 per cent. of the school children, even in progressive districts, have not been vaccinated.

These three illustrations suffice as further evidence of the increasing factor of safety involved in vaccination. The general sanitation of the states mentioned and the ordinary effectiveness of state laws of health do not vary materially, but there is this wide variation in the average appearance of smallpox.

In this connection, it is interesting to note that California, which at the last election refused to repeal a law, aimed to prevent the exclusion of unvaccinated children during an epidemic of smallpox by abolishing vaccination as a condition of school entrance, had an average rate of only 0.44, with a maximum rate of 1.30, which was due to the increase in the number of non-immunes. As a result of a law passed in 1911, which exempted from compulsory vaccination those children whose parents filed with the school authorities a certificate to the opposition of the practice of vaccination, less than 25 per cent. of the school children had the benefit of vaccination. On the other hand, free vaccination clinics are held by the State Board of Health in any community where smallpox appears. Unvaccinated children are excluded from school during an epidemic of smallpox and, under these circumstances, the number of vaccinated school children has been in-

creased in these communities to 80 per cent., showing that the absolute objectors to vaccination constitute only 20 per cent. of the parents. Thus, it is evident that the belief in the efficacy of vaccination exists in the large majority of Californians, tho the popular sentiment has not been adequately developed to make the vaccination law compulsory during times of freedom from the smallpox.

As schools reopen, it is timely to call this matter to the attention of school and health authorities, as this is a problem which vitally concerns both of them as protectors and supervisors of the welfare of children. It would seem as tho the efforts of small groups of objectors, antivivisectionists, and cultists should be overcome by the reasonable exhibition of the overwhelming benefits of compulsory vaccination. As is so often the case, a militant minority, on the plea of interference with personal liberty and freedom of conscience, possess a power entirely disproportionate to their number. The will of the majority when moving in accordance with scientific truth should be paramount. Political expediency should not suffice as an excuse for refusing to give the maximum protection to communities against contagious diseases. To wait until epidemics are rife is a short-sighted policy, pernicious in the extreme. There is no reason why smallpox should not be completely wiped out as a potential danger in this country, and compulsory vaccination of school children provides the simplest method of administration.

Cancer Control.—From all indications, larger numbers of persons are presenting themselves for the conservative or radical

treatment of new growths. Histopathologic studies would indicate that of all tumors removed, relatively, a larger percentage is of benign character. This is probably one tangible result of the general education concerning the nature, treatment, prevention, and control of cancer.

The American Society for the Control of Cancer has designated the week from October 30 to November 5 as "Cancer Week." During this period of time, it is designed to reach as many persons as possible in the United States and Canada with the facts relating to this disease, and to import such information as may be available tending towards its control. In this campaign, physicians will be of the utmost value in arousing interest and disseminating accurate information. There is much comfort in the thought that since 1916 the death rate from cancer has remained practically stationary. Whether this is due to more accurate diagnosis, earlier treatment, or an actual decrease in its occurrence cannot be determined at present, but there is reason to believe that by directing attention to the importance of this disease there may possibly be effected a continuous decrease in the death rate from cancer or, at least, no increase of the present rate.

A campaign against cancer, obviously, must be of an educational character. By lectures, distributed literature, and properly prepared articles in the non-medical press, it should be possible to reach most of the people in the country. The fact that 85,000 people die yearly from cancer in the registration area of the United States does not fully indicate the number of sufferers at any one time. It suffices, however, to reveal the extent of the problem. It would appear to be desirable for local medical societies to hold open meetings, to

which the general public is invited to listen to discussions by recognized, capable speakers on present views as to the cause of cancer, the methods of dealing with it, and what can be expected in the future from prompt attention to all symptoms suggestive of a new growth. Similar activities might properly be undertaken by our medical schools, training schools for nurses, and other organizations of a professional character whose function it is to care for the sick and to expound the gospel of protection against disease.

It has been suggested by Dr. Wainright, of Scranton, that physicians might hold demonstrations and diagnostic clinics, wherein no operations are performed, for the purpose of indicating the patent symptoms of early afflictions, and to outline the types of treatment indicated. Such clinics should be participated in by professional men and, indeed, by social workers, representatives of philanthropic agencies, and others in a position to discuss cancer in all its phases.

While cancer is a scourge, the presentation of the facts should possess the maximum optimism that is consistent with the idea of cancer control. Every effort must be made to avoid the induction of hysteric reactions or the establishment of cancerophobia. A knowledge of the facts, as thus far gathered, interpreted sanely and thoughtfully, should create no more personal distress than attended the early endeavors to combat tuberculosis—in fact, far less so, as tuberculosis was and is a far more common and a primarily contagious disease. With common action upon this single disease, thru the campaign referred to, there should be a distinct gain in the efforts to lessen the incidence and decrease the severity and mortality of cancer.

Lessening Homicide.—In the early part of August, a middle-aged man went into a Boston store and asked to see a revolver. He put some cartridges in it and pointing it at the proprietor informed him that he did not intend to pay for it. He left the store, followed by the owner calling a policeman who, upon his approach, was shot three times. Death resulted. The homicide was arrested, placed in jail, and later remanded, pending trial to a psychopathic hospital for observation. He was found to be permanently insane—a dangerous paranoiac.

This tale thus far is not particularly interesting to the psychiatrist, nor unusual in its course. There are circumstances, however, which mark it as of considerable importance. Barely a month previous to the outrage, the man had voluntarily presented himself to the same psychopathic hospital and, according to the records of the institution, was judged insane and committable. Despite this fact, however, at the end of a week's observation he was discharged in his own custody with the above mentioned result. Under the Massachusetts law and the law of many other states, a voluntary patient to a psychopathic institution cannot be committed without his consent. This shows a weakness of law which endangers communities.

Had this homicide been committed at the time that he went voluntarily to the hospital because of feelings of nervousness and tension, the policeman would not have lost his life. If the man had gone in as a voluntary patient with the smallpox, the Department of Health would immediately have quarantined him and retained him under observation until he was no longer a source of danger to the community. His mental disease was equally threatening to communal welfare, particularly as his delusions

involved tales of destruction of life in various manners and in different countries. His flow of ideas involved brutality and murder. Nevertheless, he was set at large as a dangerously insane individual, free to come and go and to work havoc according to the impulses which might seize him. Thus, there is in evidence an obviously preventable death that became possible thru a loop-hole in our laws concerning the treatment of the insane.

It would appear to be the duty of a psychopathic hospital to acquaint the proper authorities with the facts concerning any insane individual of potentially criminal trends. It should be mandatory for such institutions to advise established authorities concerning the importance of commitment for paranoiacs and victims of dementia precox with dangerous tendencies. Under a rational interpretation of policies for public safety, it should be possible to secure the examination of such individuals by a commission acting under due process of law, during the period of voluntary stay. There should be some plan to achieve the commitment of those whose hallucinations or delusions threaten communal welfare. It may be urged that there is a distinct danger in extending the law in this manner because of the attack upon personal freedom and liberty, and the possibility of error in judgment on the part of the examining authority. If the mental status of the patient is such as to indicate that he is a public hazard and liable to endanger the lives of innocent persons, certainly the public has the right to priority of thought in the matter of protection against the impulsive actions of the mentally diseased.

As knowledge concerning the criminally insane increases it becomes more apparent that the early segregation of demented with

homicidal trends is of paramount importance. When, therefore, an individual has spent considerable time in a psychopathic hospital with release during remissions, and upon occasion voluntarily presents himself because of a feeling of his own inadequacy and a state of tension, both the patient and the community are protected by arranging for his permanent commitment after careful observation by an authorized public commission acting under the authority of state enactment.

The increase in homicides, that has followed the cessation of war, may be due to a large number of factors, but there can be little question that many of them are due to mental diseases, the early recognition of which, with consequent segregation, might have prevented. It is of primary importance that this phase of the management of the mentally diseased be given careful consideration by the trustees of psychopathic institutions, public health authorities, and the legislators who are responsible for effecting protective legislation in line with a policy designed to insure public safety, without sacrificing the personal rights of the individuals whose minds are diseased.

Logic and Facts.—In the heat of battle, men are wont to fight against losing themselves in order that clear judgment may dominate their conduct and activities. Similarly, in striving for large social principles it is equally essential that equilibrium be maintained in order that the expressions of opinion may reflect coolness of judgment, logical discrimination, and rational understanding. Repeatedly, in our editorial columns, we have directed attention to the fact that physicians, while complaining of the statements of non-medical prop-

agandists, do not hesitate to duplicate their errors. This is unfortunate and is no more forgivable because of its medical origin than it would be under the sanction of lay opinion.

Loose talk is careless, inaccurate, and misleading. As an evidence of an objectionable phase of this, we would call attention, merely for purposes of illustration, to an article in the *Illinois Medical Journal*, July, 1921, by Dr. Emil Ries, which originally was read before the Woman's City Club of Chicago, under the title of "Personal Experience With State Medicine in Germany." In his first paragraph, he states that he wants to "show what comes of the efforts of the State Socialist," despite the fact that the social legislation of Germany was inaugurated by Bismark and continued under monarchical régime without any impetus or control of the German socialists. Nor does he mention that the social legislation of Norway, Sweden, Denmark, England and France did not arise from the activities of State Socialists. Because in his mind the socialist is an anathema, he links up the word socialist in such a manner as to imply that state medicine is essentially an outgrowth of socialism or of socialistic doctrine. He fails to discriminate between social legislation and socialistic legislation and between paternalistic tendencies centralized and governmental function thru an organized proletariat.

While he does not mention the year in which he made his observations in Germany, by taking the practice of a doctor who was on a vacation, he does not hesitate to talk about how powerful socialism has become in Germany, altho as a matter of fact its strength has not been sufficient to control the German government. It is interesting to note his generalization from single experiences; and such dogmatic as-

sections as, that patients would not go to the offices of doctors working under the Health Insurance Act, if it cost them something, regardless of the actual truth that every patient is a contributor under the insurance act. The wildness of his utterances, at times, is evidenced in references to maternity, in which occurs this wonderful gem of inaccuracy of remarkably misleading character: "Have you forgotten that every hospital has a maternity department?" If a similar statement had been made by anyone but a physician, it would be pointed to with alacrity as an evidence of the perversity of a demented uplifter and propagandist.

A striking illustration of argumentative

folly occurs after he has been telling about a physician who was a medical examiner under the insurance act, of whom he says: "Let me tell you that I saw that doctor again four years afterward. He was just coming back from a sanitarium where he had been six months for a nervous breakdown. Two years afterwards he was dead." The pathos of this should at once draw all men's thoughts away from any potential benefits that might arise from state medicine. Unfortunately, he did not tell how old the doctor was, how many years he had been in practice, what diseases he had suffered from, nor indeed, of what he died; but why give needless details that might destroy the emotional content of the real fact that the man was dead and that he had been an insurance examiner.

How wonderfully enlightening it is to read a paragraph like the following: "A hospital is a business like every other business, and the better it is conducted the better care it will give; but the one person that

puts a stamp on the hospital is not the board of trustees, it is not the directors, it is not the nurses, it is not the social workers; it is the doctor who does the work. You can have a first-class hospital and have a fine man run it; have him die and put another man in his place who is not a fine man; he has the same machinery and the same board of trustees and the same nurses, and the same amount of money, but it's all up; it's a failure." Aye, a one-man hospital will be as good as the one man, but under such circumstances there would probably be no board of trustees nor directors. If hospitals are organized with boards of trustees, either with or without state supervision and guidance, the conscientious physician does as fine surgical, gynecologic, neurologic, laryngologic, or other logical work as if he were the sole owner and director. Each physician and surgeon in the hospital is charged with the responsibility of caring for human beings and his work alone is of the utmost value; but he requires the cooperation of the entire hospital organization. It is hard to know just what a "fine" man is. Does it mean one who is beautiful in form and appearance? Or one having special attainments? A man of cultivation and refinement? One who is slender and thin, or one showy in dress or appearance? Or one of subtle, casuistical character or, indeed, in the English sense, one who is backed up with the highest credit? Of course, to substitute a man who is not fine for one who is fine would be folly, and such fine men in one-man hospitals ought not to die. In the general run of hospitals, however, there is a reasonable assumption that all the co-workers are men of capability, discretion, good judgment and trustworthy, and hence the death of any one

man in a real hospital for human beings does not have the dire results that are suggested.

How one's heart bleeds to read such arrant nonsense from a physician to lay women as the following: "Every patient's ailment is that patient's ailment. The man who knows that patient is the doctor for that patient. You can put big charts down with curves, and figures, and dates, and record what the patient's temperature was on the 17th of September, 1902, and all that, but the doctor who has known that patient has examined him properly and carefully and is acquainted with his ailment, knows infinitely more than can be put on any chart. How would you like it for yourself? Every patient's ailment is his own ailment. There may be a good many like his, but his is his own, and he wants to be treated the way he is, not the way that is good for Smith or Jones. If you want to have your medical system under state health direction, and want to put your patient on the chart, and let him be a number, and give him all the efficiency that state health direction will give, do it. If you have learned better, then go and help the existing hospitals so that they can do it. They can do much more individual work and they can do it to much greater benefit for all those patients." Let it be granted that "every patient's ailment is his own ailment," but if it is smallpox it is likely to be someone's else ailment, and the disease is the same whether his name is Jones, or he is bed 36, or number 204. On the basis of his own objections, our hospital system today is a failure even tho he advocates that there should be more aid given them.

All of this is not very serious; it will not alter in any way the course of human

events; it will neither militate for or against the further development that medicine may have in the future. We have the utmost respect for the doctor's personal opinions upon all subjects, altho we feel at liberty to disagree with him if occasion demands. We do not, however, believe that statements of this character are dignified, satisfactory, or reflective of the type of expression that one would like to secure from medical men of broad experience and scientific training. To be sure, to be versed in medical science does not always mean to be versed in logic.

The State and Federal Narcotic Law.—

A great many practicing physicians are finding it a source of gratification that the State of New York has simplified the problem of dealing with the administration and prescription of narcotics. Previous statutes have been repealed so that state laws now merely require compliance with the provisions of the Federal Harrison Narcotic Law as it exists and as it may be amended. The problem of dealing with frauds and the violation of provisions of the state law or of specific sanitary codes remains in the hands of the Department of Health and the Police Department.

In so far as this new arrangement applies to the City of New York, it has been covered by an amendment to the Sanitary Code, which provides that physicians, among others, hospitals, sanatoria or institutions wholly or partially treating disability, disease, inebriety, or drug addiction "may purchase, receive, possess, sell, distribute, prescribe, administer or dispense" narcotics, provided there shall have been full satisfaction of the demands of the Harrison Law.

The possession of a hypodermic syringe or needle, or any instrument patented for the use of cocaine or narcotic drugs is forbidden, unless there has been authorization by the certificate of a physician issued within the period of one year.

Drug addicts may be committed upon voluntary application by any court or magistrate to any institution in which drug addiction is treated.

The reasonableness of the new regulations and the practical uniformity of the State and Federal law should serve to protect the interest of patients and the medical profession. Any abuses should be frowned upon and those found guilty of violation of the Federal narcotic law should be penalized by the medical profession, itself, by exclusion from all authorized, organized medical societies from the county society to the American Medical Association. It is high time that physicians themselves undertook, in their own organizations, measures for safeguarding reasonable legislation that is designed to prevent an increase of drug addiction in so far as it may be due to the exploitations or dishonorable practices of unscrupulous individuals.

There are many who regret the failure of the Governor to sign the best of the several narcotic bills passed by the last legislature. But there are few who will deny that present conditions are not infinitely better than those existing under the late state law, whereby medical men were being forced to submit to rules and restrictions, which Judge Cornelius Collins—the foremost authority on narcotic legislation in the country—showed conclusively in a recent issue of the *Medical Record* to be improper and entirely unwarranted.



The Suicide Wave.—Most alarming of all the official figures, however, are those of the suicides in the United States, and for that matter, throughout the world. The increase in suicide has been exceedingly great. In 1920, there were in the United States 2,771 suicides during the first six months of the year. In the same period this year, there were 6,509 suicides. The increase is especially notable among boys and girls under sixteen years of age. The increase in the suicides of adults is explainable by the depression and the general havoc created by the war and the dislocation that followed it. The remedy for this situation is not an easy one to find. But the increase in the suicides of the young has a manifest and an immediately ascertainable origin, one which can be easily traced and with which it should be easy to deal. That in spite of this suicide among children has increased, is directly the fault of parents and educators. It is noticeable that practically all of the suicides in this class occur between the ages of twelve and sixteen, that is, in the critical period attending puberty. The explanation given in numerous individual cases is that suicide took place as a result of depression over failure in school examinations, but this explanation confounds an incidental circumstance with a deep-rooted ill. A normal child, with the proper training and the proper education which is indispensable and yet so rare at this critical stage in his development, would not take his life for so trivial a cause as failure in examinations. The point to be observed is that even a trivial pretext suffices in a difficult crisis. The root of the matter lies in the utterly mistaken practice, observed in even the best surroundings, of ignoring one of the most important aspects of adolescent education: the preparation for the change which puberty involves. Our national prudery, and our tendency to evade vital issues from an utterly false sense of delicacy is here ob-

servable at its worst and in its costliest form. It is safe to say that ninety per cent. of the suicides among children under sixteen years of age could be avoided by wise and frank education in just these issues which the adolescent is unprepared to meet without it. The fault is that of the parents, upon whom the duty naturally devolves. And yet even enlightened parents are often guilty of evasion in this important matter. The situation is a common one, and as unfortunate as it is common. The father thinks that it is the mother's duty to give the children the vital information, the mother thinks the task is one rightly belonging to the father, and in the delay and indecision that ensues, the child is allowed to pick up his information, so often of an alarming and entirely misleading nature, wherever he can. Invariably, what he learns in this way only increases his disquietude, accentuates his panic, and in a sensitive or morbid child the consequences are often grave. The neglect of education in this respect is, of course, more costly in the case of girls and the figures show that a large majority of the suicides among children are girls. This is but one of the many instances in which mankind, with the progress of civilization, shows its incapacity to deal with the problems which civilization brings. As far as America is concerned, our exaggerated delicacy in this matter is too costly an error to be dismissed lightly.

Doctors Who Are Making Good.—It may not be generally known but there are several doctors filling positions of trust in New York at the present time, who are accomplishing results that are probably not exceeded in their importance and far-reaching effects on the public welfare by those being produced by any other men in the whole country. Notable among these physicians, are Dr. Copeland, Health Commissioner of New York City; Dr. Harris, Deputy Commissioner of Police in charge of traffic bureau; Dr. Carleton Simon, Deputy Commissioner of Police in charge of narcotic bureau; and Dr. Chandler, Commanding Officer of the State Constabulary. The work of Dr. Copeland needs no comment. He is admittedly, even by those who most severely criticize the pres-

ent city administration, one of the best health commissioners New York City has ever had. The health conditions and the marvelously low morbidity and mortality rates of the largest city of the Western Hemisphere, tell a story of efficiency in public health administration that is gratifying, to say the least. This is not a bit of journalistic flattery, nor have the following remarks been written with any other desire than to emphasize the excellent work these American doctors are doing in administrative fields of activity. None of these gentlemen require any commendation from us, or from anyone else. The work they are doing speaks for itself.

Dr. Harris has devised and laid out a traffic system that is saving New York people endless inconvenience, annoyance and time. But what carries special significance is the notable decrease in the occurrence of accidents. No one can observe what Dr. Harris has done in a city of the size and conditions presented by New York without feeling deeply grateful. Everybody esteems successful achievement, and Dr. Harris has accomplished results in the face of great difficulties that would not have been thought possible if they were not being actually demonstrated.

Dr. Carleton Simon likewise has had a herculean task, but he has met the situation with a courage and ability that have been conspicuous. A state of affairs that presented a grave problem has been handled by Dr. Simon with an energy and intelligence that have won universal commendation. He has thwarted the plans of innumerable drug smugglers and broken up gang after gang of illicit dealers in narcotic drugs. Thousands of dollars worth of drugs have been confiscated, until the total value reaches well over a million. Without a doubt, the miserable crooks who have tried to make fortunes by the illegal sale of narcotic drugs, have come to realize that they cannot ply their vicious trade while Dr. Simon is protecting the community against their nefarious schemes. The medical profession derived very great satisfaction from the appointment of Dr. Simon, for while physicians generally knew the difficult nature of the problem, they also knew the man. The public could hardly be expected to understand the situation or grasp its serious aspects in the same way,

but as the people have learned of the many hidden supplies of narcotics that have been found, and the desperate schemes that have been defeated, the intelligent citizens of the community have come to realize why it was necessary to enlist the services of a psychologist who had devoted considerable attention and study to criminology. Suffice it to say, Dr. Simon has done all that his friends expected of him. No higher commendation could be given of his work. The illicit sale of drugs is being handled as it should be.

Still another medical man who is making good is Dr. Chandler, of the State Constabulary. The excellent work he is doing as the head of this splendid organization cannot be spoken of in too enthusiastic terms. Every one who has had any opportunity to learn of what the state police force is doing, is equally commendatory. Dr. Chandler has shown rare administrative ability, and his tact and skill in a field where these are peculiarly needed, is reflected in the fine results already being obtained.

For a long time AMERICAN MEDICINE has been calling for a wider recognition of the fitness of medical men for positions requiring administrative and executive ability. We are highly pleased to see the increasing number of doctors who are being appointed to such positions. We are not self-conscious enough to think our humble efforts have contributed in any degree to this development. But we cannot keep from the human failing of saying "we told you so," when we note the successes being made by the physicians whose work we have knowledge of. It is interesting in connection with the foregoing to learn that Dr. Hubert Work, President of the A. M. A., has been appointed an assistant postmaster-general, to succeed John C. Koonz.

This Month's Cover Picture.—The picture on our front cover is that of David Hosack (1769-1835), who, according to Garrison, was, in his day, the best known practitioner in New York City. In addition to having a large practice, he was also editor of the *American Medical and Philosophical Register* (1810-14), in which work he was assisted by John Wakefield Francis (1789-1861), a German-American

physician who came to enjoy something of Hosack's popularity in New York, was an attractive teacher and writer and something of a medical Maecenas in the city.

David Hosack, in 1820, wrote on the medical police of New York City. In the first half of the century the subject was extensively cultivated in France.

The Value of Drugs.—In the current (September) issue of the *Prescriber*, one of the brightest and most interesting of the excellent medical publications put out by our English colleagues, the leading editorial points out in response to the question, "Is drug treatment passing out of the region of practical therapeutics?", that there certainly seems to be a tendency in this direction, for the advance of such methods as vaccine therapy, radiotherapy, physical methods, and also the latest and much overrated craze psychotherapy, gives the impression, at first sight, that there is a real diminution in the use of drugs in the treatment of disease. The writer of the editorial, however, recognizes that the actual condition is more apparent than real, for as he very properly says, closer examination will show that it is not the use but the abuse of drugs that is on the wane. The drug superstition—the magic power of "something in a bottle"—is dying out, and is being replaced by other superstitions, some of them, such as psychoanalysis, being—as superstitions—ininitely more harmful.

For drugs that really cure disease—and there are many such—there still is and always will be a place in the physician's armamentarium. The benefit arising from the administration of quinine in malaria, of arsenobenzol in syphilis, of antitoxin in diphtheria, of morphine in acute pain, and of many others that will occur to anyone, cannot be denied by the most ardent anti-drug enthusiast. Again, when does a substance begin to be a "drug"? Sodium chloride is an article of diet in the first instance, and is also valuable as an intravenous injection: its action in both cases is practically the same. Certain mineral salts and organic acids are contained in fruits: these same salts and acids are given as drugs when the fruits are not available.

The line of demarcation between drugs and foods is difficult to draw.

The truth is that with the advance of knowledge we are enlarging and extending our armamentarium—we are organizing and mobilizing against disease an army that contains many new units and many hitherto unknown weapons. And such mobilization necessitates the complete reorganization of the older drug therapy, the casting out of the useless and effete, and the improvement and perfection of what is really valuable and effective. We are in hearty accord with the views of our esteemed contemporary and take pleasure in commending the broad and progressive sentiments he has so ably and succinctly expressed.

The Importance of Being Able to Make Prompt Decisions.—The editor of one of our most popular lay publications—*Short Stories*—has written an editorial that is so full of logic and truth for people generally, and medical men in particular, that we deem it a duty to reproduce his statement. If there is any one thing that spells success in our daily work it is the capacity to make prompt decisions in regard to matters presenting themselves for our disposition. We may occasionally make a mistake in deciding a problem quickly, but in the long run we will gain much more by giving prompt decisions than by hesitating and delaying in forming of our opinions.

About the biggest job we have in this life, day in and day out, says the writer above referred to, is that of making decisions—over the momentous affairs of our future, or over the little daily matters that make the fabric of the hours. Some people are not much troubled in making up their minds. They seem to know instinctively what they want to do, or should do, and go to it. They are the fortunate ones, indeed, if their decisions are controlled by a nicely balanced mind and conscience. Of such stuff are made the successful business men who handle large affairs, who are constantly making decisions, yet who never lose their tight grasp on health. It is indecision that kills. The scientists are finding out some interesting things about the human mind these days,

and one of them is that many nervous breakdowns, otherwise attributed to overwork, are the result of mental conflicts arising from a man's inability to see the facts of life wholly and truly. One indecision leads to another, until making up one's mind over the most trivial daily affair becomes a matter of agony. There is the case of the nervous patient, a man found sitting in abject misery, trying to decide which sock to put on first.

A wrong decision very often can be righted, but a time of agony in trying to make up one's mind incapacitates that mind for grasping the governing factors in any given case. We all make mistakes. It is better to do something and make a mistake than to waste our energies over trivial decisions.

Not that we advocate snap judgments. We like to "sleep over" an important decision—to let that hidden force, called the subconscious by the scientists, and the Cosmos by the New Thinkers (whichever it is, take your choice; we are neutral) have their way. Usually that seems to help in the all important matter of relative values. Then the decision is usually happily made—and we hope correctly.

So-called Food Poisoning a Preventable Disease.—The "average man," medical and lay, has peculiar ideas about food and what food does—that is, when he is sick, continues an editorial writer in the *Nation's Health* (August, 1921). To the well, food is counted as one of the joys of living, and little thought is paid to the many steps food takes in its passage from raw material to human tissues. When a few persons are made ill by eating poisoned foods, the occasion is rare enough to warrant newspaper headlines, universal fear and, usually, complete ostracism of the suspected material. Then the scare dies, a prize fight or a divorce scandal heads the front pages—and the world remains as ignorant as before about so-called "food poisoning."

In another column of this issue we are fortunate in being able to present a comprehensive and scientific abstract of the present status of poisoning by food. Dr. Street

emphasizes the comparative rarity of serious illness arising from poisoned food, quoting Rosenau's statistics that in twenty-two years 150 persons are recorded in the United States as having been made ill by botulism, with 111 deaths. The possible sources of trouble in the raw material, in factory, storage, distribution and, finally, in the home of the consumer, are so multiple that it is really surprising to find so few substantial cases of illness produced by diseased food. Naturally, Rosenau's statistics include only those cases reported; there is not and never has been statistical or scientific proof that such a thing as "ptomaine" poisoning exists. Rosenau, Savage, Chapin and Vaughan are quoted in emphatic protest against the conception of ptomaine—a protest which we should like to see scattered broadcast. Too many individuals still labor under the ptomaine delusion, too many diseased appendices, gall-bladders, or what not, are overlooked—often until too late—because of the traditional belief in the danger of a perfectly prepared can of salmon, or a perfectly fresh lobster!

Food poisoning does occur, but Street believes that the general term should be replaced by more definite etiologic statements. Food may be injurious because of natural poisons, animal parasites, plant parasites, toxins, and in other less important ways. Food may become infected—generally with a bacillus of the *Gaertner* type; or become poisoned with a toxin such as that produced by the *Bacillus botulinus*. Meat is the food most likely to become infected, altho milk, cheese, even vegetables, may carry the infection. This type of poisoning appears most commonly in prepared meat foods and is the type often erroneously called "ptomaine." It is always, however, an infection, and may occur ante-mortem thru infection from without. Being an infectious disease of known etiology, it is likewise a preventable disease. Extreme care in marketing, with *thoro* cooking just before serving, could prevent most outbreaks of poisoning from this group.

Food poisoning by means of toxins has received attention lately because of the cases of botulism due to canned olives and spinach so well reported in the daily press. It is important to note that neither this

type of "toxic" food nor the infected food can be detected by the senses in all instances. The bacillus which produce *botulism* apparently grows anywhere and may be found in animal as well as vegetable food. Street believes that home packed foods have been responsible for a large proportion of the cases thus far reported. This is not an argument against home packing, but is a very strong argument in favor of the employment of the utmost care and the greatest scientific skill in food preparation.

An Interesting Investigation.—So much interest has been taken by New York physicians in the clinical investigation of a new remedy for tuberculosis recently conducted at Riverside Hospital, North Brother Island, that we are glad to be able to publish in this issue the preliminary report of the results obtained. This clinical test was carried out under the authority and direction of the New York City Department of Health, and as will be readily apparent, is simply a plain, accurate and absolutely unbiased statement of the facts determined by the physician-in-charge, Dr. Euthimios. In examining this report, it should be remembered that it refers, as Dr. Euthimios points out, to cases "in the advanced stage of the disease."

In view of the delay occasioned by careful checking and verification of the report by officials of the Department of Health, it was received at such a late date that it was impossible to print it other than in the position in which it appears.

The Only Path.—The habit of half doing things, of doing things in a sloppy, slovenly way; the habit of aimless, purposeless working, has ruined more careers than almost anything else. System, order and concentration, coupled with industry, will make a success of a one-talent man, while the habit of half doing things will ruin the biggest-brained man in the world. Efficiency is the only path to success.—*Success Magazine*.



ORIGINAL ARTICLES

HYPER- AND HYPO-THYROIDISM, CAUSATION, PREVENTION, AND TREATMENT.

BY

SIR JAMES BARR, M. D., LL. D., F. R. C. P.,
F. R. S. E.,

Consulting Physician, Royal Infirmary, Liver-
pool, Vice-President, British Medical Asso-
ciation,

Liverpool, Eng.

In the *Practitioner* of April, 1914, I published a paper on the functions of the thyroid, the suprarenal, and the pituitary glands. I have now been incited to return to the subject by an animated discussion which recently took place at the Royal Society of Medicine on the treatment of exophthalmic goitre. No definition of the disease seems to have been considered necessary, as a well-developed case of exophthalmic goitre can scarcely be mistaken for anything else. However, I am convinced that there is not infrequently a certain amount of confusion between the exophthalmic and the endemic types of goitre—between hyper- and hypo-function of the thyroid gland. In the early stages of fibro-cystic goitre there is often an attempt at hyper-function in association with the hyperplasia to meet the demands of the system for increased calcium metabolism. The thyroid is the storehouse for iodine, and when there is a demand for that substance

the activity and size of the gland increase, but as the iodine gets exhausted the function diminishes, the fibroid hyperplasia continues, and the thyroid becomes a storehouse for calcium rather than iodine. In the early stage there may be even slight prominence of the eyeballs and rapid action of the heart, but with the diminution of function these signs abate, and even a myxedematous condition may supervene. In true exophthalmic goitre if the patient lie on her back and raise her head it may be impossible to feel any trace of the enlarged thyroid gland, but in a large fibro-cystic goitre such complete evanescence does not take place.

Exophthalmic goitre is now almost universally considered to be associated with excessive function of the thyroid gland, but one of the speakers at the debate asserted that, "the worst symptoms of the disease—cardiac, and, following upon that, mental and nervous—were due not to the thyroid, but to the thymus, which had been too little considered." This is not original, tho it was hurled forth as such. It is well known that the thymus is usually enlarged in Graves' disease, but its enlargement is associated with an increase in the lymphoid tissue such as occurs in the status lymphaticus. The speaker might emend his observations if he tried the physiologic effects of thyroid and thymus in normal subjects.

Exophthalmic goitre is one of those diseases which lie in that wide borderland formerly occupied by the physicians but now claimed by the surgeons. It is reported as the opinion of a distinguished surgeon that he considered those cases which paid as surgical, and those which did not as medical. This definition has the merit, from the surgeon's point of view, of being practical, but in this disease the physicians do not seem inclined to relinquish their territory without a struggle. So far as I can summarize the debate from the reports in the weekly medical press, the physicians were determined to hold on so long as their resources, and presumably also those of the patient, held out. We were not told what the resources of the physicians are, except that medical treatment, whatever that may imply, should have a fair trial. As for the resources of the patient they are usually more or less conjectural, but a wise patient should have some hidden resources banked up against the probable incursion of the surgeon. When the physician fails, as he apparently often does, and it is largely on the failures of physicians and practitioners that the surgeons live, he was quite prepared to hand over the derelict to the surgeon. But, before doing so, he would warn her that she had 19 chances to one of getting over the operation, and if the surgeon removed a sufficient amount of the gland she would be much better, but if he took a few slices too many he might produce the condition of *cachexia thyreopriva*, in which case she would come back to the physician for further treatment which would continue during the rest of her life. The surgeons were quite prepared to let the physician have an innings for six months, but they were not prepared to accept any dictation as to the time when

they should operate. They seemed to be much of the same opinion as Dr. Charles H. Mayo, who has, perhaps, done more of these operations than any other surgeon—alive or dead.

Dr. C. H. Mayo, possibly chastened by his large experience, says, "while exophthalmic goitre was amenable to surgical treatment by the removal of a large part of the hypersecreting gland, the procedure must not be considered emergency surgery. During exacerbations all cases should be considered medical. Surgery was indicated during the upward wave of improvement." About 20 years ago I saw several deaths after operation. I then made up my mind that in future I would not be *particeps criminis*. Since then I have seen many severe cases of this disease but no deaths. The treatment which I am about to depict comes within the competency of any ordinary panel practitioner, and to such I am going to strongly commend it, as it will make no inordinate demands on his time, and he will run no risk of being heavily fined by his Insurance Committee for excessive prescribing.

Causation and prevention come before treatment, and must have primary attention. Exophthalmic goitre does not spring up in a night like Jonah's gourd, nor does it forthwith wither away even under the surgeon's knife.

Hyperthyroidism — Graves' Disease.—The manufactured article is the form of exophthalmic goitre anyone can recognize, but a true artist does not require a pot of paint thrown in his face in order to discern the finer lineaments of the picture. There are an enormous number of cases of hyperthyroidism where there is no exophthalmos, no obvious enlargement of the thyroid, and no pronounced nervous symptoms, but

in these cases an intelligent observer will readily detect a tendency to emotional and vaso-motor disturbance. A warm moist skin, warm extremities, active capillary circulation, rather high venous pressure, rapid action of the heart and the rate easily accelerated by any mental excitement or active exercise; the deep reflexes increased, and slight muscular tremor may be appreciable. Any number of such cases were depicted in the irritable hearts of soldiers during the war. In cases of hyperthyroidism there is a state of unstable equilibrium, the individual is sharp, alert, even vivacious, but is easily exhausted both mentally and physically, and is incapable of long sustained effort. In all degrees of hyperthyroidism the urine may contain a slight amount of albumen, especially after getting up in the morning—this corresponds to the orthostatic albuminuria of adolescence, and is associated with deficient vaso-motor tone, and a lessened amount of fixed lime in the blood. This symptom was first discovered by the late Warburton Begbie. The free lime in the blood is usually, but not necessary, increased, and there is always an excessive excretion except when there is a very small intake. Blair Bell has shown that the thyroid and ovaries are largely concerned with calcium metabolism.

A few days ago I saw a patient with this affection written plainly on her face; she had been sent to me for a supposed gastric ulcer on account of pain in the epigastrium. These two diseases are rarely associated, but they are not incompatible, as in hyperthyroidism there is a free secretion of hydrochloric acid.

The causes of hyperthyroidism are still rather obscure. We know that the active principle of the thyroid gland contains iodine, and excess of function of the thyroid

is always associated with excess of iodine in the gland. The best preparations of sheep's thyroid are those obtained in summer and early autumn, when they get plenty of grass. I have recorded two cases of exophthalmic goitre produced by the too free administration of tincture of iodine; both these patients were rapidly cured by stopping the iodine, and placing them on a calcium mixture.

The thyroid gland is, as a rule, much more active in the female than in the male, hence sex plays a prominent part in the determination of excessive action. Women of the masculine type have their suprarenals as well, or perhaps better, developed than their thyroids. Emotional disturbances are more apt to occur in women of the strongly feminine type, and emotion acts like suddenly turning a stop cock in a water pipe connected with the main; it sets up waves of pressure, the chief stress of which is thrown on the aorta and main branches, hence we get a large supply of blood to the thyroid, longitudinal straining of the arteries, flushing and general vascular turgescence of the head and neck. The sexual functions of the female demand an active thyroid, hence any emotional disturbance is apt to cause excessive action which may not subside when the demand is over. In the early months of pregnancy the thyroid is usually active, and so we get rapid calcium metabolism; consequently a liberal supply of lime salts is required to correct headaches, and many other vascular disturbances. A typical case of exophthalmic goitre occurring in pregnancy requires very careful treatment, and at parturition a hypodermic injection of pituitrin should be ready to check hemorrhage.

Active calcium metabolism renders women less liable to arteriosclerosis than

men, and as Blair Bell has shown women get rid of much calcium at each menstrual period. Sexual emissions play a similar part in the male, but such are not necessarily associated with any excessive action of the thyroid. When arteriosclerosis does arise in women, apart from kidney disease, it chiefly occurs in those who have borne large families, and who have had long continued high arterial tension with calcium retention.

In some cases there seems to be not only over-action of the thyroid, but also diminished action of the suprarenal glands with dark pigmentation of the skin and low blood-pressure. This adds to the gravity of the case tho the thyroid symptoms are less pronounced. With the diminished suprarenal secretion and low blood-pressure there is less cardiac stimulation and less palpitation.

The blood-pressure in hyperthyroidism is very variable and merits special consideration. The viscosity of the blood is diminished, the arterioles dilated and thus the peripheral resistance lessened, and the capillary circulation active; this leads to a lower mean arterial pressure, but on the other hand the capillary and venous pressures rise. There is a large supply of blood to the heart, the ventricular cavities are capacious, and the systolic output great. There is no risk of any anoxemia unless the patient be strangled—which would not be a proper line of treatment. With a large and rapid output the systolic pressure is raised, but as the arteries are large, and the peripheral resistance low there is a great fall in the pressure gradient with a relatively low diastolic pressure—this condition gives rise to longitudinal straining of the arteries. The difference between the systolic and diastolic pressure is spoken of as

the pulse-pressure, and many extol a high pulse-pressure as the efficient agent for carrying on the circulation. On the other hand I have often pointed out that for longevity you should have a low systolic and relatively high diastolic pressure; thus giving a small pulse-pressure, and a good chance of energy. With a great pulse-pressure there is an enormous waste of energy; the heart is overloaded, the energy is chiefly expended during systole and is not stored up in the elastic walls of the arteries, thus there is no conservation of energy, but the heart must enlarge and hypertrophy to meet the excessive waste, and the vessels become elongated and sclerosed. This wasteful expenditure of energy is the cause of the rapid failure which often takes place in aortic incompetency. In hyperthyroidism there is deficient vascular tone which is so essential for an efficient circulation, hence the great value of active suprarenal glands in this disease.

According to Oliver and Shaefer, Elliott, Brodie and Dixon, adrenalin only acts on unstriated muscular fibre innervated by the sympathetic and by its action on the nerve endings it serves as the link by which these functions are exercised.

Dr. Haldane has recently told us in one of the B. M. A. Lectures that the circulation is much more active than we imagine; he has calculated that during rest 1.8 gallons of blood pass thru his heart in the minute. This means that with a pulse rate of 72, four fluid ounces of blood leave his left ventricle at every contraction. If this takes place during rest, what takes place after exercise, or after a few glasses of Scotch whisky? No doubt Dr. Haldane is a big man in more senses than one, but on his own evidence I should have some qualms of conscience about passing him for

life assurance. At any rate in the treatment of hyperthyroidism it is most important to improve vascular tone and lessen ventricular capacity. A small ventricle gives a much more efficient contraction than a big dilated one. This end is more readily attained by the Albert Abrams' reflex of cardiac contraction than by any other.

The Albert Abrams Reflex of Cardiac Contraction.—This reflex was first employed by Abrams in the treatment of aneurysm, and during the past twelve years I have successfully treated many such cases. The reflex is readily elicited as follows:—Concussing the seventh cervical spine by means of a plexor and pleximeter you cause the heart and arteries to contract. I use the word concuss in preference to percuss, because when I am delineating organs by percussion my stroke is exceedingly light; the diminution in the size of the heart would be very easily demonstrated were it not for the fact that not more than one medical man in ten can accurately percuss out the deep cardiac area. However, every one can feel the apex beat when it is forcibly thumping from the recoil of the heart an inch or two outside the nipple line. If you then concuss the seventh cervical vertebra according to the following instructions you can usually, if the heart be not played out, bring the apex beat into the nipple line or thereabouts, without altering the position of the patient. If the heart does not quickly respond the prognosis is bad, and the heart is not likely to be much benefited by that overrated drug, digitalis. This reflex is of short duration, but Dr. Abrams has recently discovered that if you immediately afterwards concuss the second dorsal spine the reflex may continue for an hour or two. This action of the second dorsal spine might be spoken of as a fixation complement; es-

pecially as it has a similar effect on Abrams' other reflexes. Concussion of the seventh cervical is supposed to act by stimulating the vasomotor center in the spinal cord, and it also increases vagus tone. It contracts aneurysms and aneurysmally dilated aortas, improves cardiac tone and reduces the size of the heart especially of the left ventricle; relieves vasodilator neuroses including hyperthyroidism, enlargement of the thymus, congestion of the eyes, ears, nose, throat and lungs, some forms of migraine, paroxysmal cough, etc. It subdues the pain in false angina where the heart is dilated and overloaded, and pulse-pressure high, but true angina pectoris with raised blood-pressure and contracted arteries is made worse. There are two other of Abrams' reflexes which give rapid relief in true angina, *viz.*, concussion between the third and fourth dorsal spines acts on the depressor nerve, enlarges the blood vessels and lowers the arterial pressure. If there be any distension of the stomach, as there usually is, the patient should drink one or two glasses of hot water, then you should concuss the fifth dorsal spine which opens the pylorus and the stomach empties itself in a few minutes. Concussion of the sixth and seventh cervical spines enlarges the spleen, often so much that the lower end of the normal spleen can be left below the costal margin. If you wish to keep it dilated for an hour or more you must immediately afterwards concuss the second dorsal spine.

The pleximeter may be made of a strip of thick linoleum, but I prefer a large cork about one inch in diameter, and about one and a half inches in length; one end of the cork is held on the spine which you wish to concuss and the other end is struck with the plexor. I use a moderately heavy

plexor with a whalebone handle, but what answers equally well is the ulnar side of the closed fist, a tack hammer, or a small mallet, or even the head of a poker—but this should not be used as a weapon of offence. The strokes should be short and sharp but not painful: they must not be so heavy as to make the patient think that the treatment is worse than the disease; moreover you must not exhaust the reflex. Concussion of the sixth cervical stimulates the parathyroids, and a few primary blows on it are useful especially if there be any tendency to cramp of the calves of the legs.

A good routine method in hyperthyroidism is to give ten strokes on the sixth, then thirty on the seventh cervical followed by thirty on the second dorsal spine. Then wait for a minute, and repeat the series, again wait another minute and repeat the third series; this should be done three or four times a day. You can easily instruct any intelligent being to carry out this treatment without any risk of being hauled before the General Medical Council for keeping an unqualified assistant.

The improvement in the patient is rapid, and, if you recognize your cases early, exophthalmic goitre may become as rare in your practice as myxedema, which as a full-blown entity has almost ceased to exist. You need not concuss every young woman you see with a slightly enlarged thyroid; a woman is all the better sexually and mentally for an active thyroid, but in such cases you had better avoid iodine and all its salts. A full throat is a sign of beauty.

There are several auxiliary lines of treatment which I would like to emphasize. We have referred to the increased metabolism and excretion of calcium; this waste must be replaced. It is not the amount of calcium swallowed, but the amount absorbed

that does good, and often the intestinal mucous membrane refuses to take up more than a minimum quantity. The lime should be in a soluble form, and if, at the same time, the patient is taking a fair amount of unsaturated fats the calcium gets absorbed as a soluble lime soap. On the other hand, beef and mutton fats form insoluble lime soaps which are apt to irritate the bowels and pass out with the feces. The blood should be kept very alkaline, and you need have no fear of alkalosis, as the kidneys quickly excrete any excess; when the blood is very alkaline the lime metabolism is not so active, and any excess is readily thrown out into the tissues without being excreted. Give a large dose of chalk with bicarbonate of sodium and potassium in milk at bedtime followed by two tablespoonfuls of olive oil. When there is much muscular wasting there is an excessive excretion of phosphates, and it is then well to prescribe a mixture of the glycerophosphates of calcium and potassium. The patient can freely use the phosphate of sodium and if there be any tendency to edema this may be substituted for table salt. However, edema is very rare except in those cases where there is deficient action of the suprarenals. It has often seemed to me in ordinary cases that a liberal supply of sodium chloride helps the retention of lime salts in the tissues. Pilocarpine in small doses stimulates the action of the vagus, but I have practically discarded atropine, and of course thyroid and iodine.

The diet should be liberal and consist chiefly of milk, farinaceous foods, white meats, olive oil, butter and fat bacon; there should be no acids or acid fruits, and as there is often a certain amount of carbohydrate intolerance with slight glycosuria it is well to avoid sweets, preserves and sugary

As well as operative treatment, I have long since discarded the use of X-rays in exophthalmic goitre. I know that this method of treatment is strongly advocated in some quarters, but simpler, less expensive and more effective methods should suffice.

As the patient improves, the amount of lime salts in the urine diminishes even when the patient is taking the same amount of calcium in his food and medicine. As the improvement advances the albuminuria that was present disappears. You may eventually find that there is too much lime in the blood and tissues, the viscosity of the blood increases, the heart's action becomes slower, and often irregular and intermittent; the mean arterial blood-pressure is high, while the capillary and venous pressure are low. In such cases you should lessen the calcium intake, and hasten the elimination with decalcifying agents, such as phosphoric acid and citric acid. Minute doses of iodine and thyroid to increase calcium metabolism would be permissible for a short time.

Hypothyroidism—Fibrocytic Goitre.—Dr. McCarrison has adduced very strong evidence to show that endemic goitre is due to a *contagium vivum*. This, according to him, is the exciting factor, but there must be underlying or predisposing causes which render certain individuals more liable to develop the disease than others living under similar conditions. The thyroid gland is the storehouse for iodine, and without iodine the gland does not properly functionate. In the early stages of the disease there would seem to be excessive function with increased formation of colloid material in the gland, and there may be some slight prominence of the eyes and other symptoms of hyperthyroidism, but as the iodine gets used up, and is not sufficiently

replenished, the colloid material is absorbed, and the degenerated parenchyma is replaced by fibroid tissue. In these cases there is always a large supply of calcium, but with the defective action of the gland it is imperfectly metabolised and is stored up in the formation of hyperplastic fibrous tissue. We have here anabolic rather than katabolic changes.

Dr. McCarrison says:—"It is important to remember that degenerative processes early attack the thyroid gland which is, in the first instance, the subject of continued and increased glandular activity. This point is of the greatest importance to the physician, for it is obvious that to be successful, medicinal treatment must be commenced early, and that once degenerative processes have progressed to any extent, and have resulted in the formation of adenomata and cysts, medicinal treatment in any form must prove unavailing. In the great majority of all cases of parenchymatous goitre which come before the physician, the functional activity of the gland is impaired to some extent, and the patient exhibits symptoms corresponding in degree to the degree of impairment of glandular function."

In treatment, iodine in some form or other is our sheet-anchor; there are an enormous number of forms in the market, every manufacturer claiming that his particular brand of so-called organic iodine is the best, no doubt the best for his pocket, but for the patient there is nothing better than tincture of iodine, and the dose is easily regulated according to the needs of each particular case. In advanced cases where the gland has ceased to functionate, and the patient is becoming myxedematous small doses of thyroid may be added. In these advanced cases the surgeon may play the part of a beauty specialist without doing much harm.

Myxedema.—Our knowledge of the functions of the thyroid gland were primarily

obtained, by meddlesome surgery producing the symptoms of *thyreopriva*, from the observations of Gull on a cretinoid condition arising in adult women, and from the investigations of Ord on this disease which he termed myxedema, Victor Morsley and others proposed thyroid grafting; soon afterwards George Murray and Hector Mackenzie discovered that the subcutaneous injection and oral administration of thyroid extract rapidly cured the disease.

Well-marked cases of myxedema are not very common in the present day, because the disease is easily recognized, and thyroid treatment soon restores the patient to a more or less normal condition. In advanced cases the individual is slow in thought and speech, all his mental faculties are at a low ebb, he is alert neither in body nor mind, his movements are executed in a slovenly manner, and he seems better fitted for a state of hibernation than for the normal activities of life.

Dr. George Murray says that myxedema is seven times more common in females than in males, this would seem to be due to the fact that over-action, which is so common in females during menstrual life, is apt to be followed by lessened function. Moreover, as women approach the menopause the thyroid usually becomes less active; at this period of a woman's life the regular use of small doses of thyroid will be found very beneficial. Tho pronounced cases of myxedema may not be so common in males I am convinced that atypical cases are more so. In males the blood-pressure is usually higher, there is more retention of calcium salts, and arteriosclerosis occurs earlier and in a greater degree. Slowness of speech and thought, defective play of the expression are due to deficient function of the thyroid gland with lessened calcium

katabolism; such conditions are often more noticeable in men than in women. Many of these individuals have an excellent poker-face, but they lack the intelligence behind it to play the game. The remedies are iodine, thyroid, and decalcifying agents.

Mastitis.—Large nodular masses in the breast, which are perhaps, more common in single than in married women, are often readily dispersed by thyroid, iodine, and decalcifying agents.

Adenoids.—The demands on the thyroid gland are not particularly great until puberty, and in early life its function is often defective. I have long held that adenoids are due to an imperfect natural attempt to compensate for defective action of the thyroid. I know that Dr. Harry Campbell says, tho in my opinion on inadequate evidence, that they are due to unsuitable food and imperfect mastication. I am quite alone with him on the importance of mastication in the development of the jaws. In fact, I would be prepared to go further and even advocate the objectionable American habit of chewing gum, but I do not believe that such a habit would prevent the evolution of adenoids. About puberty when the thyroid becomes active the adenoids usually shrivel up, and long before then the thymus has dwindled away.

When the thyroid is very inactive the child is undeveloped, rather stupid—or at least not bright and intelligent, liable to catarrh especially of the throat and nose, the lymphoid tissue is increased, giving rise to adenoids with the usual sequelæ of mouth-breathing, elevated palate, contracted jaws and crowded teeth; the tonsils become infected and enlarged. From the obstruction to the entrance of air there is imperfect development of the chest. There may also be excessive salivary secretion

and incontinence of urine. For such conditions the best treatment is thyroid, iodine, iodide of calcium, syrup of the iodide of iron, and cod liver oil.

However you should not wait for the manufactured article, but on the slightest suspicion of defective action of the thyroid, a lump of solid iodine should be placed in a current of air in the children's dormitory and in the nursery. They should be as much as possible in the open air, and all the better if at the seaside.

In 1914 I was anxious to get School Medical Officers to take up the subject of the prevention of adenoids, and tonsillitis, but the war put a stop to my energies in that direction. I have since learned that it is hopeless to carry out any collective investigation in officialdom. Officials move along the lines of least resistance, they know that it pays better to please the powers that be than to exhibit any originality; experimental work is not likely to bring them any kudos, but on the other hand even the suggestion of an experiment might bring on their devoted heads the censure of the Ministry of Health—that bureaucratic establishment of ignoramuses.

Enlarged Prostate.—This is a fertile field for surgeons who had better make hay while the sun shines as old gentleman may become sufficiently enlightened not to have large prostates. A big prostate is a very troublesome companion, and he who is so ill-advised as to get one had better get rid of it if the only alternative be a catheter-life. Why one man should have a huge prostate, and another, under similar conditions, one of ordinary dimensions has never been accurately determined. I believe the well-to-do suffer more frequently than the poor, some might say because they live longer, but that, in my opinion, is only a

small part of the truth. The teetotaler is certainly not more exempt than the boozier.

In 1893-94, Dr. J. W. White of Philadelphia conceived the idea that an enlarged prostate was analogous to fibro-myomata of the uterus, and as the latter were apt to atrophy or become quiescent after the menopause and after oöphorectomy so he thought that the removal of one or two testicles might have a similar beneficial effect in the male. He had a series of experiments carried out on dogs, and he found, as he anticipated, that after castration the prostate atrophied. He then operated more or less successfully on many human subjects. The operation caught on to a slight extent in this country but it never became popular with the patients.

White thought that the resuscitation of the function of the prostate in elderly men was the principal cause of its enlargement, but he did not fully recognize that an enlarged prostate may increase sexual desire, drive old men into matrimony—afterwards to discover their lack of capacity.

In 1894 I saw on several occasions with the late Dr. Joseph Matthews a gentleman who was suffering from a large prostate and cystitis. He had previously been seen by two surgeons and the late Dr. Wm. Carter. Extirpation of the prostate had not then come to stay. I drew their attention to White's operation which apparently did not meet with the approval of the patient, possibly because he was married to a young lady. At any rate my services were not further requisitioned. A few months later I met the patient out at dinner. He condescendingly told me that medical men did not know their business, that he had sacked the lot, placed himself under the care of an electrician—whom we ignorantly called a quack, and he was now quite well.

I congratulated him on the result but did not inquire as to how it had been attained; however, I think I profited by the lesson. So far as the prostate was concerned it gave rise to no further trouble to the end of the chapter. I did not see him again professionally till September, 1904, when he was dying from uremia.

I look upon a large prostate as analagous to a large fibroid goitre, and associated with defective function of the thyroid. In consequence there is lessened calcium katabolism, and that stored up in the prostate hastens hyperplastic changes in the parenchyma and fibrous tissues. There are some who think that man is not simply as old as his arteries, but as old as his sexual functions—possibly the two go hand in hand.

In prevention as years advance the activity of the thyroid should be maintained or supplemented by the use of iodine and thyroid, there should be no undue supply of lime salts. You should remember that milk is food for babes and sucklings, but not for these of riper years. You should avoid hard water and beer made with such; moreover, large quantities of beer overload the bladder and lessen its expulsive power.

Examination of the prostate in men over sixty is a wise procedure whether there be any symptoms or not. If there be any enlargement the patient should be at once put on thyroid, iodides, and decalcifying agents, while the intake of lime should be at once cut down. If the enlargement has got beyond the primary stage, these remedies should be pushed. If the bladder be very irritable, and there be frequent calls to micturate, I find aconite in good doses very valuable; this may be combined with atropine but the doses should be very small, as large doses are apt to cause more or less

paralysis of the walls of the bladder with urinary retention. If the expulsive power be diminished pilocarpine is an excellent remedy, but on the other hand it is apt to increase the irritability.

When cystitis has been injudiciously set up the popular remedies are hexamine or some such preparation along with the acid phosphate of sodium. As a rule I prefer aconite, benzoate and acetate of sodium, saccharin, and perhaps small doses of belladonna or atropine.

The passing of the catheter should be looked upon as emergency surgery which should not be too often undertaken. Ten years or more ago I saw a gentleman who was suffering from cancer of the prostate and cystitis. He had been in the habit of passing a catheter in himself for several years. Altho the steed was stolen and it did not much matter about the stable door, I told him that he should be very careful with the catheter. He assured me that he was extremely careful as he had been taught by the late Mr. Reginald Harrison. He always boiled the catheter and to make sure that it was clear he blew down it. I replied that I was absolutely certain that Mr. Harrison never told him to blow down the catheter, or at least if there was any blowing it should be done before and not after the boiling.

Dr. Albert Abrams recommends concussion of the twelfth dorsal spine for contracting the prostate. If the prostate be soft, and the size be due to an increase in the parenchymatus rather than the fibroid tissue, he finds a strong, rapid, sinusoidal current very beneficial. He applies the small electrodes with an interruptor to the twelfth dorsal vertebra, and the large indifferent electrodes over the sacrum; con-

cussion of the fifth lumbar spine increases the tone of the bladder wall.

Old Age.—As years advance the thyroid gland becomes less active, and arterial degenerative changes progress *pari passu*. I am not going to deal with the prevention of old age, the majority of people are fairly successful in that line. As practitioners of medicine we are more concerned with the efficiency of life than its mere prolongation. A long and independent life is usually an efficient one. There are, no doubt, many individuals who prolong a useless existence at the expense of the community.

Longevity is largely a question of heredity, and the *optime* working of the endocrine glands. I am often amused at filibustering Medical Officers of Health, from the Cardinal downwards, proclaiming the increase in the *average* duration of life. The only thing which they do or are capable of doing is to render the environment suitable for the preservation of the unfit and inefficient, and even in this line they only travel along the paths mapped out by others. The only way to raise an A-1 population is to breed them.

Hemorrhage Into Digestive Tract.—

The occurrence of massive hemorrhage into the digestive tract has been observed by Simon (*New Orleans Med. and Surgical Jour.*, July, 1921) in three patients, as a result, apparently in each instance, of a diseased state of the arterial system with especial localization in the vessels of the stomach and duodenum. While the presence of arterial disease could not be verified, because of lack of opportunity for direct inspection at the site of the hemorrhage, nevertheless the close association exhibited by the vascular accident in each case, with a manifestly morbid state of the arterial system as a whole, has seemed sufficient to warrant the assumption of some definite relationship between the two conditions.

THE PRACTICAL APPLICATION OF ORGANOOTHERAPY.¹

BY

JAMES C. WOOD, M. A., F. A. C. S.,
Cleveland, Ohio.

For a number of years I have been intensely interested in the study of the internal secretions. Up to two years ago I utilized from time to time, as did many other medical men, our more or less definite knowledge of the thyroid preparations in the various conditions resulting from dysfunction of that gland. In a more specific way I used, of course, the pituitary extract in its action upon unstriped muscular tissue and adrenalin extract in overcoming shock and, locally, in controlling hemorrhage. I have for the last ten years been following the literature devoted to the internal secretions more or less closely, reading with much interest the writings of Sajous, Bell, Stokes, Kocher, Nicholas Gley, Oswald, Leonard Williams, Oppenheim, Vassalé and others but until the last two years, with the exceptions given, the clinical applications made by me of the knowledge thus obtained were more or less unsatisfactory because of the lack of conciseness in the therapeutic application made by the several writers referred to.

The vast amount of experimental work done in this field now affords us an infinitely clearer vision than we have ever had before of the function of the endocrine glands and other internal secretions and their relationship to both physiologic and pathologic phenomena.

The limitations of this paper forbid more than a mere reference to the physiology and pathology of the endocrine glands. For fuller exploitation of this phase of the sub-

¹Read before the Cleveland Homeopathic Medical Society, November 17, 1920.

ject the reader is referred to the voluminous literature now extant, which had its beginning in the days of Hippocrates and Galen.

Some 42 organs and tissues of the body have furnished material for the organo-therapeutic specialist. The so-called ductless glands are, as is well known, the adrenals, the spleen, the pituitary, the thyroid, the parathyroids and the thymus. However, organotherapeutists are now using other secretions and tissues of the body with more or less satisfactory results. Such are the bile, secretions from the duodenum, the mammae, the pancreas (pancreatin and trypsin), pepsin from the stomach, hemoglobin, normal serum and antithyroid serum and leucocyte extract from the blood, medulla from bones, lecithin and thromboplastin from the brain, the kidneys, the liver, the lymphatic glands, the pancreas (total gland and Langerhans' Islets), the placenta, the prostate, the ovary, the testes, the appendix vermiformis, bone, lung, parotid, pineal body, gastrin from the stomach, and the tonsils.

The fundamental principles underlying the application of organotherapy to disease are: 1. Substitutive. 2. Homostimulative. 3. Empirical. 4. Specific.

The administration of thyroid extract to replace the secretion which is missing, as in myxedema, is an example of *substitute organotherapy*.

Homostimulative organotherapy is well described by Hallion's law, which is as follows: "The extract of an organ exerts upon the same organ an exciting influence which lasts for a longer or shorter time. When the organ is insufficient it is conceivable that this influence augments its action and when it is injured that it favors its restoration." If this law holds good, it will be seen that the principle of organotherapy

comprehends more than the temporary substitution of a glandular element deficient in quantity or quality and that a permanent restoration of the function of the gland is possible by the intelligent administration of the missing hormone.

Under the head of *empirical organotherapy* we are treading upon less scientific ground and have merely to note the fact in passing that desirable results are obtained in the administration of certain animal extracts which cannot scientifically be accounted for. Such examples, for instance, we have in the use of the parathyroid in the treatment of paralysis agitans and the beneficial results following the use of pituitary extract in certain functional ovarian disorders.

Under the caption of *specific organotherapy* we have as a striking example the use of the posterior lobe of the pituitary body in its action upon unstripped muscular tissue of the intestines and the uterus.

Pluriglandular Therapy.—Says a well-known writer: "Pluriglandular disorder is much more frequent than disorders involving a single gland of internal secretion; hence the reinforcement of the indicated organo-therapeutic extract when one or more synergists many times radically alters the results for the better. In fact it may make the difference between success and failure."

In other words, in dealing with disturbance of the endocrine glands it is necessary, in order to handle the case in hand successfully, to recognize that it is not only one gland or one organ that is affected but the entire body. This is a principle in therapeutics which is now generally recognized by all modern clinicians. It applies emphatically to the endocrine glands because their several functions are so controlled as to make it quite impossible for one gland

to become involved without in greater or lesser degree affecting the entire chain and indeed the entire organism.

Metabolism is in all instances disturbed by such involvement because metabolism (both anabolic and katabolic) is in no small measure under the direct control of the endocrine glands, particularly the thyroid—hence the emphasis placed upon synergistic organotherapy.

A young bone cell picks out calcium, or an active muscle cell picks out glucose, from the blood. In other words, when nutritional matter is thrown into the circulation of a body functioning normally the individual cell will extract from the blood exactly what is needed for its growth and development and no more.

Harrower, altho a manufacturer of therapeutic products, has produced an ambitious little book, entirely ethical tho sometimes over enthusiastic, in which he has utilized the foregoing data upon which to base his hypothesis of "hormone hunger." I desire especially to call attention to this hypothesis because I am led to believe that the book referred to¹ has gone a long way toward popularizing organotherapy in America, and to stress what seems to me its weak point for the benefit of those whose knowledge of endocrine therapy has been obtained largely from this book, commendable as it is in very many respects.

Harrower has presumed in this hypothesis that the cells of the endocrine glands function as do all other cells of the body in that they will not only absorb just the nutritional matter they require for anabolic and katabolic purposes, but also just the necessary amount of hormone secretion from other glands of internal secretion, and no more. Any excess is carried into the cir-

culatum and oxidized without harmful effects.

It seems to the writer that the weak point in this hypothesis, upon which pluriglandular therapy is based, is that, while it may apply to fairly normal individuals, it most emphatically does not apply to those cases where there is *hyperfunction* of certain of the endocrine glands. One does not have to get very far in his clinical observations to learn, for instance, that in hyperadrenalism and hyperthyroidism even very small doses of adrenal or thyroid gland will aggravate his patient's symptoms in the most distressing way—hence the necessity of great care in making a pluriglandular prescription not to include in it any of the hormones or tissues which would add to the work of a body already overwhelmed by the hypersecretion of one or more of the correlated hormones or organs of internal secretion.

As yet we do not know definitely just how the hormones of the glands of internal secretion are made and used. What we do know is that they are thrown into the blood and other body fluids and that in this way distant organs or cells correlate the activities of the organ or organs with the remote or associate organ that it involves.

If time proves this theory (hormone hunger) in the main correct, it is not difficult to comprehend why it is necessary to resort to pluriglandular therapy in the majority of instances where endocrine medication is called for. But in order to make intelligent combinations we must first know the physiologic relationship and action of the internal secretions. A fairly intelligent knowledge of such relationship is now available to all readers and the scope of this paper only permits a brief reference to essential facts. The controversial points regarding the

¹ *Practical Organotherapy*, 1920.

physiology of the internal secretions will be omitted.

From the *medulla* of the adrenal glands is obtained the active principle, adrenalin. In extremely small doses it contracts the blood vessels when applied locally or given internally by action upon their nerve terminals. From the *cortex* of the adrenal glands there is obtained a substance which exercises a powerful antitoxic function and which also exercises a marked influence upon the development of the gonads. Its influence upon blood pressure, therefore, makes it very useful where there is asthenia with hypotension and malnutrition.

The *thyroid*, as has already been intimated, has to do largely with the processes and maintenance of the metabolic activities of the body. It has an intimate relationship with all of the other endocrine glands. It favors oxidation, controls growth, both physical and mental, and furnishes in its secretion the chief detoxicating agent of the body. It also presides over the immunity producing mechanism.

The anterior lobe of the *pituitary body* is likewise concerned most importantly in the control and development of metabolism. When it is partially removed (it cannot be removed entirely without ultimately causing death) there is brought about a condition of adiposity, asexualism, including subnormal temperature and marked asthenia. The posterior lobe on the other hand can be removed with impunity. It secretes an extremely active substance which exerts a powerful influence upon unstriated muscle—hence its use in producing intestinal and uterine contraction.

The *mammary glands* produce an internal secretion which has the power of antagonizing the ovarian secretion and, conversely, is antagonized by it. It is, therefore, indicated

in menorrhagia and metrorrhagia due to hyperovarianism and has also been used advantageously to stimulate mammary activity and development.

The action of the ferments (trypsin, steapsin and amylase) obtained from the *pancreas* is so well known that I am only calling attention to such ferments at this time in order to make this paper more inclusive. They also possess a reflex value in stimulating the secretion of bile where there is biliary insufficiency.

From the *Islets of Langerhans* is obtained a secretion which v. Noorden has termed the "brake to the sugar factory." It exerts a remarkable influence upon carbohydrate metabolism.

The stomach is the factory for the production of *pepsin*, whose function it is to digest proteids in an acid medium.

Secretin, discovered by Starling, is obtained from the upper eighteen inches of intestine. It is called the alimentary hormone and activates the digestive enzymes from the pancreas. It is also particularly useful in treating certain forms of indigestion where there is hepatic stagnation manifested by intestinal putrefaction, indicanuria, autotoxemia, white stools, etc.

The *parathyroids* are intimately concerned in the maintenance of calcium metabolism thereby having to do with the destruction of toxic substances which have an especial predilection for attacking the nervous system—hence the indication for parathyroid substance in tetany.

The *testes* secrete a substance, spermin, which is known as a dynamogenic hormone which exerts a decided influence upon nutrition and cell activity generally.

From both the *ovarian stroma* and from the *corpora lutea* there are obtained active hormones which not only help to regulate

the processes of oxidation but also, in all probability, control menstruation and maintain pregnancy in the early months. Much discussion has been indulged in as to just what influence the ovaries have upon menstruation. Pflueger in 1865 put forth a theory that menstruation was explained as a result of pelvic hyperemia induced reflexly by the growing Graafian follicles on the ovarian nerve terminates. Knauer, Marsall and others, however, showed that after the ovaries were transplanted elsewhere in the body, menstruation continued even tho the nerve connections were severed, thus disproving this theory.¹ In other words, the ovarian influence is undoubtedly exerted thru the blood stream and not thru the nerves and is, therefore, of an endocrine nature.

From the *blood* is obtained hemaglobin and the normal serum, as well as antithyroid serum and leucocyte extract, whose function is well known.

From the *bone*, medulla is obtained; from the brain *lecithin* and thromboplastin; and from the glomerular portion of the *kidney* a substance which is said to exert a special neutralizing effect in toxemia with a diuretic effect upon the kidney tubules.

Preparations from the *prostate gland* have been used successfully as a homostimulant in prostatic hypertrophy and chronic prostatorrhea.

Preparations made from the *spleen* are said to bring about the activation of trypsin in the white blood cells, thereby favoring phagocytosis.

Zuelzer claims to have discovered a

peristaltic hormone produced in the stomach and duodenum and stored in the spleen, which really transforms it into a splenic hormone. Thru this hormone acting upon the unstriped intestinal musculature, together with its blood supply (the enteric vessels being temporarily engorged with a large amount of blood very shortly after its injection) it is, in Zuelzer's opinion, of undoubted value in reducing blood pressure.

Extract of the *thymus gland* has been found decidedly useful in controlling mineral metabolism, especially calcium. It is known that the thymus gland controls the growth of bone, regulates phosphorus metabolism and the activities of the sexual organs in childhood. I shall cite a striking case of chronic rheumatoid arthritis which was very markedly benefited by thymus gland medication.

Bile is the natural physiologic cholagogue and antagonizes intestinal putrefaction. It exerts an "especial anticoagulation action upon the mucin in the intestine" and is probably correlated in function with the pancreatic and duodenal enzymes, in that it augments their secretion.

The appendix and lungs, the brain and parotid glands, the pineal body and the tonsils have all been exploited for certain conditions and doubtless possess properties of more or less medicinal value.

Diagnosis.—No one should undertake to practice organotherapy in its broader sense without at least a working knowledge of the subject. I am satisfied that much harm can be done by one unfamiliar with the physiologic data which I have barely outlined. Fortunately, if the medical man be alert, untoward symptoms from excessive dosage are so pronounced as to be easily recognized, when the prescription can be discontinued before serious harm is done. Un-

¹In a case of his own the writer transplanted an ovarian graft in both the wall of the uterus and in the abdominal wound, after removing both glands. The patient has menstruated regularly, now 18 months, but suffers at each period from tenderness and swelling where the abdominal implant was made.—J. C. W.

fortunately, the average physician will have to rely upon the clinical picture presented rather than upon laboratory data.

There is no particular difficulty in diagnosing profound lesions and malformation of the endocrine glands. For instance, the symptoms of well marked hypo- and hyperthyroidism are so conspicuous that the condition will be easily recognized. This is also true of gross adrenal changes as manifested in Addison's disease. Likewise deficient action of the parathyroids following surgical work upon the thyroid is at once made manifest by the symptoms of tetany. But it is not so easy to determine the minor manifestations of endocrine dysfunction which the physician in a busy practice may meet with several times a day. These are the cases which can be tremendously benefited by timely endocrine therapy.

In nearly all instances where there is *hypofunction* of the endocrine glands, especially the thyroid, the adrenals and the gonads, there is present a symptom complex which has become very familiar to me as a gynecologist and which gave me untold trouble before I utilized endocrine therapy. Metabolism is always more or less disturbed as manifested by loss of flesh, flabby muscles, dermatoses and cold hands and feet; or, especially in hypothyroidism, the patient is overfleshy and phlegmatic. The white blood count is usually low with an increase in the lymphocytes. If there be marked asthenia, the blood pressure almost without exception is below normal, there is constipation or alternate constipation and diarrhea and, frequently, mucous enterocolitis. These patients are often the victims of headache with mental depression or actual melancholia. The thyroid in many instances is more or less enlarged with an increased calcium output. Indicanuria and

often oxaluria are present. Menstruation is painful and scant or excessive, depending upon whether or not there is hypo- or hyperovarian function. These patients are usually asexual, often sterile and almost never experience the sexual orgasm and are, therefore, frequent victims of apprehension neuroses and emotional instability. In the majority of instances there will be found marked indigestion characterized by hunger pains, flatulence, heartburn and satiety with a heavily coated tongue and foul breath.

If in a case where the foregoing symptoms are manifest there be found upon physical examination an enlarged, subinvolved and sharply retroflexed uterus with the ovaries under the fundus; or if the ovaries and tubes are hopelessly diseased because of an old infection; or if the cervix be torn and the pelvic floor relaxed; or if there be rectal lesions giving rise to pain and constipation, endocrine therapy will do little good so long as the local and mechanical conditions go uncorrected. I have cured, as have many other surgeons of some experience, hundreds of these cases without bringing to my aid endocrine therapy. However, since I have been using endocrine therapy their convalescence following surgical work has been made infinitely easier, because of the prop given in properly selected cases by such therapy.

With a careful study of the symptom complex of these cases one will learn to prescribe the endocrine secretions with a fair degree of certainty without access to an elaborately equipped laboratory. A more refined and certain diagnosis is, of course, possible thru laboratory measures. Such are the basic metabolism test in thyroid dysfunction; the Goetsch adrenalin test and the more delicate Loewi mydriasis and Ab-

derhalden ferment test in the same condition.

We have at our command in dealing with pituitary dysfunction, other than the symptoms already given, certain definite tests which have to do largely with the digestion of lactose and sugar. It is well known that in hypopituitarism the sugar tolerance is tremendously increased and these various tests are based upon this fact. They are known as the galactose, the levulose, the glucose, the sucrose and the artificial glycosuria tests.

Adrenalin disturbances can be detected thru adrenal sensitization, thru the oculocardiac reflex and thru the production of what is known as Sergeant's "white adrenal line." The latter I have found more or less constantly present in all of the cases benefited by the administration of adrenalin and the test is most simple. By means of the round end of a pencil or fountain pen a geometrical figure of some kind is outlined upon the skin of the abdomen. After half a minute of gentle friction a pale line or band begins to be noticed following the tracing. Gradually this becomes more distinctly white, at the same time becoming larger so that eventually the line exceeds in size the actual area touched by the pen. This line increases in clearness as friction is exerted and will persist for one, two or three minutes before becoming gradually obliterated. It is due to the hypotension brought about by hypoadrenalism.

In parathyroid dysfunction, if one be in doubt, Erb's test with galvanic stimuli of one of the motor nerves, especially the ulnar, will cause a decided muscular contraction, which is normally absent.

The differential blood count in thymus gland disease is useful, there being usually lymphocytosis with a marked increase in

the small lymphocytes. A diagnosis by exclusion must always be made determining whether or not there is absence of tuberculosis. The fluoroscope is also of value in determining the presence of a persistent thymus.

Harrower has prepared very small doses of thyroid extract in the form of tablets in the administration of which he determines whether or not the patient is suffering from hypo- or hyperthyroidism. It is a simple test and one reasonably reliable, altho it is necessary in applying it to bear in mind the relationship existing between all of the endocrine glands.

Before presenting a few of the more interesting cases passing under my observation I desire to say that endocrine therapy is only one means to an end. I have rarely relied upon it alone in the treatment of disease. I have always combined with it other measures—using the indicated internal and local treatment—particularly in treating cases of impotency and sterility. I desire nevertheless to emphasize that in my experience patients who have been given endocrine medication respond infinitely more quickly and satisfactorily to other indicated treatment, whatever that may be. The several hormones are to the body what the storage battery is to the automobile—they furnish the vital sparks that sensitize the somatic cells, including those of the endocrine glands, and make them more responsive to all stimuli, whether nutritional or medicinal. In short, their intelligent administration prepares the way, and physiologically, for the indicated drug therapy. Those of us who take advantage of the so-called secondary action of drugs administered in accordance with the indications furnished by animal experimentation and provings upon healthy humans will, I think,

be able many times to account for our failures because of the lack of proper endocrine secretions from one or more of the ductless glands. For instance, in disturbance of the parathyroids there is frequently a sensation of "icy coldness above and between the shoulder blades." Don Pedro Alon, a well-known worker in this field, says that this symptom is pathognomonic of parathyroid dysfunction or insufficiency. It is a symptom produced by a number of remedies in provings upon the healthy and to the uninitiated would seem fantastic, but here we have it vouched for by one whose reputation is fully established, as a pathognomonic symptom of parathyroid dysfunction.

Under the proving of *Lachantes Tinctora* (spirit weed) will be found the following: "Sensation as if a piece of ice were lying between the scapulæ." In the more complete symptomatology of that drug will be found also other evidences which ought to make it a useful remedy in tetany and other conditions characterized by tetanic and spasmodic conditions. For instance, under the head symptoms, there is "a right-sided pain extending down to the jaw, worse from the least motion, with an exceedingly painful condition of the scalp and stiffness of the neck; pain in the nape with the head drawn to one side."

In the treatment of the various conditions due to endocrine dysfunction with disturbed metabolism the several preparations of arsenic, the calcareas, the vasomotor disturbers (the serpent poisons, sanguinaria, nitroglycerin, jaborandi and amyl nitrite) and nearly all of the so-called "tissue remedies" (the preparations of lime, iron, magnesium, potassium, sodium, etc.), will be found useful in connection with endocrine feeding.

Another thought is suggested by the theory of "hormone hunger" and other

physiologic data adduced. I refer to the possibility that in the light of such data we are possibly, for the sake of scientific accuracy, jeopardizing the immediate interests of the patient by confining ourselves in a given case to the single remedy alone. This is especially true of the tissue remedies for if the body cells possess the intelligence to select from the blood such material, and only such material, as they need, is it no more than probable that, and without harm if the dose be merely substitutive, we would get quicker results under polypharmacy than in the use of the single remedy alone. It is a thought worthy of serious consideration, altho some of our pharmacists have doubtless worked it for more than it is worth.

Case Reports.

Case 1.—Sterility with dysmenorrhea and asthenia. Patient aged 27; English; family history negative; usual children's diseases married four years; never pregnant, altho she was very anxious to have children; menstruate at 12; regular with a good deal of pain; has white, stringy leucorrhea; digestion good; bowels constipated; a great deal of pain for 2 hours after onset of menstrual period, so that she was confined to her bed; flows excessively; extreme prostration with no ambition; constipated, with cold hands and feet; absolutely no sexual desire and has never experienced the sexual orgasm.

Physical Examination.—Patient tall and fairly well developed; breasts flabby; heart and lungs normal; blood pressure 110-80 mm.; hemoglobin 90; appendix palpable; uterus retroposed but sharply antiflexed; both ovaries tender; tubes slightly thickened.

I deemed it best to correct the local condition first and a few days after her coming to me in March, 1918, I divulsed and curetted her, overcame adhesions of the clitoris, held the uterus forward by the internal Alexander operation, removed the appendix and thoroly divulsed the rectum.

The patient made an ideal surgical convalescence but did not become pregnant nor was her impotence improved. Therefore, a year later, because of her asthenia and her lack of sympathetic tone, as manifested by the cold hands and feet I prescribed a combination made up of the following: Adrenal substance, total gland $\frac{1}{4}$ gr.; thyroid gland $\frac{1}{12}$ gr.; spermin extract (from gonads) and brain substance (lecithin) aa gr. 1; with calcium glycerophosphate.

phate q. s. This prescription was made 12 months following the operation, one capsule four times a day. Six months later she came to me four months pregnant and reported her impotence as decidedly improved. She has given birth to a fine, healthy girl and is now normal in every respect.

It is, of course, entirely possible that this patient would have conceived following the surgical work, even the endocrine therapy had not been resorted to. However, her general condition was so much improved by it as manifested by increased pep, endurance and sexual vigor that I have every reason to feel that the prescription was in no small degree responsible for her conceiving.

Case 2.—Sterility with acne. Aged 30; American; family history negative; usual children's diseases, including scarlet fever and typhoid; no children; one induced miscarriage three years ago; menstruated at 14; regular with a great deal of pain; digestion good; bowels regular. This patient consulted me primarily because of a very distressing and disfiguring acne following her miscarriage three years ago and which had resisted all local treatment by several skin specialists whose reputations are beyond question. She was exceedingly nervous and was suffering from an intense dyspareunia with a vaginismus which made sexual intercourse most difficult. I found that the dyspareunia was largely due to irritable areas around the hymenal border and under local treatment, together with electricity, this was largely overcome. Patient's sexual desire rather above normal but she has never experienced the sexual orgasm. She is extremely well developed and except for the disfigurement of the face would be a very handsome woman. She came to me in March of this year giving a history at that time of ovarian dysfunction with pain and scant menstruation. Is becoming rather heavy; blood pressure normal; heart and lungs O. K.

I prescribed for her, because of the dysmenorrhea and scantiness of the menstrual discharge, and because also of the neurotic manifestations present with the tendency to obesity, a combination tablet consisting of $2\frac{1}{2}$ grs. of ovarian substance with corpus luteum; $\frac{1}{12}$ gr. of thyroid gland; and $\frac{1}{4}$ gr. of pituitary extract with calcium phosphorus q. s., one t. i. d.

This prescription was given in June and two months later she came to me in every way benefited, except for the acne. This was not improved. She returned again in two months and I found her six weeks pregnant. She has now come to the end of her fifth gestation month, is feeling splendidly and her face is in the best condition that it has been for three years, possibly because of the placental hormone which is now being autogenously furnished her.

Remarks.—Here again it would be quite impossible to say, as is true in nearly every case of sterility treated, just what brought about the changes which enabled her to become pregnant. It is entirely possible that the local treatment which overcame the dysmenorrhea and the

vaginismus had a great deal to do with it. What the internal medication did do, however, was to relieve her of her dysmenorrhea and improve her general condition. It is at least not an unreasonable supposition that the changes induced by the formula in both the ovule and the endometrium were such as to favor pregnancy.

Case 3.—Apprehension neurosis with distressing dysmenorrhea; obesity. Patient aged 36; tuberculosis on mother's side; usual children's diseases, including chronic rheumatism before she had her tonsils removed; married sixteen years and never pregnant; menstruated at 15, the menses being long delayed and very painful; has a profuse excoriating leucorrhea; digestion good and is a very hearty eater; bowels regular.

Present History.—Patient weighs 190 pounds, tho not tall; began to grow fleshy 15 years ago; has an intense occipital headache during menstruation, the menses being scant; feels tired most of the time; has always had a great deal of gas, especially when nervous; exceedingly nervous and excitable; gets hysterical and cries; apprehensive; optical illusions; eyes puff; ankles swell. Centrifugal urine contains occasional hyaline casts with a faint trace of albumen and a low output of urea.

Physical Examination.—Heart and lungs normal; blood pressure 100-70; teeth irregular; uterus retroflexed and low, almost protruding from the vagina.

On January 28th of this year I operated her, doing a divulsion, a curettage, removing a good deal of debris. After applying iodine to the endometrium the uterine cavity was packed with iodoform gauze. Abdomen opened in median line; appendix explored and found normal. The uterus was held forward by the Kelly modification of the internal Alexander operation. The operation was made rather difficult because of the inaccessibility of the parts.

She convalesced smoothly so far as the surgical work was concerned but did not regain her nervous stability and was not relieved of her leucorrhea, dysmenorrhea or her headaches. I, therefore, placed her, two months after leaving the hospital, upon the combination used in Case I, one capsule t. i. d. after meals, and cut down her carbohydrates. I have from time to time given her local applications for her leucorrhea, altho this has not yet entirely disappeared. Otherwise, her condition is wonderfully improved. She is no longer apprehensive and suffers neither from headaches nor dysmenorrhea and is looking at the world thru different eyes. Her weight has been reduced 20 pounds. I have every reason to believe that her convalescence has been hastened in no small degree by the endocrine medication resorted to.

The foregoing cases are cited to show the effect of the internal secretions when properly prescribed upon the general condition of asthenia with neurasthenia and ovarian dysfunction. As intimated, I am not pretending to say what part, in the cases where pregnancy followed their administration, they played in overcoming

sterility. That will have to be left to the imagination. At another time I shall summarize a series of cases of sterility passing under my observation with the treatment resorted to in each case.

Case 4.—Menorrhagia. Hungarian, aged 18; usual children's diseases, including scarlatina; menstruated at 14; very painful and of a three-week's type; feels extremely exhausted following the menstrual period; appetite and digestion good; bowels regular; cold hands and feet.

Physical Examination.—Uterus in normal position and no evidences of defloration; in every way a well developed, normal looking girl, except for the anemic appearance due to the excessive loss of blood. Hemoglobin 80; blood pressure normal. This patient came to me April 24th of this year and I prescribed for her hydrastis canadensis in 10 drop doses of the tincture and gave her in addition, because of her prostration, Elixir I. Q. and S. t. i. d. She returned two months later having passed thru two periods without the slightest improvement. I then prescribed for her, because of the menorrhagia and dysmenorrhea due evidently to dysovarism, a combination of mammary and ovarian extracts, one capsule t. i. d., doubling the dose three days before the period and during the menses, omitting for one week and then repeating the treatment according to directions. She passed thru the next period with her condition greatly improved and the subsequent periods have been practically normal.

Remarks.—These formerly inexplicable cases of menorrhagia in young girls were the nightmare of nearly all physicians and not a few surgeons. They compose a class where there is, according to Cullen, hyperplasia of the endometrium, but will often persist in bleeding notwithstanding the thoro application of the curette, or other routine treatment. Emil Novak of Johns Hopkins has discussed the subject thoroly in Volume IV, No. 3, of *Endocrinology*, which is the bulletin of the Association For The Study Of The Internal Secretions. He is of the opinion that in the larger number of instances of uterine bleeding, except those due to cancer, it is functional in the sense that the bleeding is the result of a disturbance of the ovarian secretion, which may in turn be secondary to certain forms of pelvic disease such as myoma, pyosalpinx, etc. I have obtained benefit in these cases from the use of thyroid extract alone but the results have been more happy with the mamma-ovary compound. The reasons for this are not clear, inasmuch as the ovarian and the mammary hormones are antagonistic. The formula in addition to these two products contains gr. $\frac{1}{4}$ of thyroid gland. I shall have to admit that the formula is more empirical than scientific.

Case 5.—Menorrhagia. Russian Jewess, 36 years of age; six children, the youngest 15 months, and one miscarriage; menstruated at 16; was always regular but had a good deal of pain; more or less dysuria; a good deal of indigestion with acid eructations; bowels constipated; she came to me because of trauma re-

sulting from childbirth and complained of a severe pain in the splenic area; backache and a very profuse menorrhagia. She is a pudgy, fleshy little woman and has a good deal of occipital headache; very nervous and, like a good many of her race, exceedingly apprehensive.

Physical examination showed the cervix everted and cystically degenerated with marked enlargement of the uterus and a badly relaxed pelvic floor. I had her under treatment for some time previously to the operation, giving her on various occasions such remedies as tincture of hydrastis, china, ergot, the calcareas, etc., without benefit. In March of this year I operated on her, overcoming the various surgical lesions, including the removal of the appendix. She convalesced from the operation nicely, but in spite of careful medication her menorrhagia persisted, the flow being characterized by a good deal of pain. After passing thru three periods I prescribed for her, because of her menorrhagia and dysovarism, a combination of mammary and pituitary extracts, giving her two capsules three times a day, doubling the dose three days before and during the expected flow and omitting for one week thereafter. Her next period was shortened by two days and the flow was much less; the second following the prescription was almost free from pain and the third practically normal.

The formula used was composed of 2½ grs mammary substance; $\frac{1}{2}$ gr. of ergotin; and $\frac{1}{2}$ gr. of the total pituitary gland with calcium phosphorus compound q. s. Inasmuch as ergo had been previously tried disassociated from the pituitary and mammary gland substance, I can but feel that the happy results were due in large measure to the administration of these organotherapeutic substances.

Case 6.—Chronic arthritis. Not a large number of cases of chronic arthritis pass under my observation. The following case is, however, an intimate friend and came to me for a slight uterine disturbance. She is 74 years old and had for many years a distressing Basedow's with marked exophthalmos. The Basedow's has gradually subsided, but during the last two years she has suffered intensely from chronic arthritis which has stiffened her joints, made every movement painful and her condition was deplorable. She consulted me early in June of this year and as more of an experiment than anything else I prescribed for her a combination of adrenal, spermin and thymus extracts. The results were most happy. This compound was administered in capsules. The thymus gland in particular has a remarkable leucocyt stimulating effect. These were administered from two to four times a day. She at once obtained relief from her pain, gained a surprising amount of pep and wrote me two weeks ago that "her friends accused her of indulging in monkey glands." She said, to quote her precisely, that "she felt like climbing a telephone pole." The deformity of the joints has not disappeared.

I am citing this one case for what it is worth and inasmuch as the patient had absolutely nothing else in the way of medication, I have

every reason to feel, because of the immediate relief obtained, which has continued up to the present time, that the gland products used were responsible for her improved condition.

Case 7.—Dysentery and mucous-enterocolitis of 11 years' duration. This patient was 25 years of age when she came to me more than ten years ago and I have had her under observation constantly since that time. I operated her on January 20, 1912, after the following history: In February, 1909, she suffered a severe attack of dysentery which kept her in bed for three months and she had been ill continuously from that time up to the time of my first operation. Her physician who had her under treatment for the dysentery diagnosed it, after examination of the stool, as "amebic." She had, following this attack, mucous and bloody stools from three to seven times a day which were exceedingly offensive. In November of 1909, she came to me and I placed her under observation in the hospital for three weeks, during which time by high irrigation and by local treatment she very much improved. She then weighed but 97 pounds and at the time of the operation, three years later, weighed 117 pounds. She suffered from colicky pains thru the abdomen, accompanied by nausea. Intense congestive headaches preceded each menstrual period. Bowel trouble always worse during menstruation. Cold hands and feet. Mother died of Bright's disease; father of cancer of the stomach; all symptoms aggravated by cold; has spells of morbid sweating.

Physical Examination.—Blood pressure 100-70 mm.; secondary heart sounds accelerated; lungs normal; appendix distinctly palpable and thickened; tenderness over the entire colon area; uterus in normal position and ovaries apparently normal; proctoscope showed intense congestion of rectum and sigmoid with abraded patches. On January 20, 1912, I removed the appendix thru a short gridiron incision and found it decidedly thickened. Subsequent examination showed the condition to be purely inflammatory. I began the operation with the idea of doing an appendicostomy thru which I could irrigate the intestine but the appendix was so much diseased that it seemed the focal point of infection and I, therefore, removed it in the usual way hoping that this alone was the offending organ. Her surgical convalescence was uninterrupted and for a time she was very decidedly improved. However, in spite of the operation, and in spite of my best directed efforts in the way of internal medication and the careful correction of diet, the mucous enterocolitis persisted and she never completely recovered from her dysentery. In August of 1915, while I was on my vacation, she was taken with a severe pain in the left side with shock and collapse. Upon my return I found a well defined mass in the left side in the region of the broad ligament which resembled a hematocele. This was giving her a great deal of distress and, with the history, I was afraid of either malignancy or tuberculosis. I prescribed for her at that time, because of the mucous entero-

colitis, two grains of silver nitrate in eight ounces of water, a teaspoonful every four hours, which controlled the mucous enterocolitis for some weeks. The pain, however, persisted and on November 11, 1915, I opened the abdomen for the second time thru a median incision. The "mass" in the left side proved to be an hematocele evidently having its origin from a bleeding Graafian follicle and consisted of the ovary which, together with the blood clot, was as large as a small orange and was intimately adherent to the sigmoid. This was removed and the uterus was brought forward, after breaking up the adhesions in the cul-de-sac of Douglas, and fastened in front with two chromic gut sutures. No evidences of serious organic disease of the bowel.

This operation again greatly improved her condition and for at least a year she was almost entirely relieved from abdominal pain. She never, however, was entirely free from the unnatural discharge from the bowel and remained prostrated with a good deal of distress in the back, limbs, the nape of the neck and the occiput. Every now and then she would have sharp attacks of bowel trouble in spite of all sorts of medication, including full doses of emetine. Usually she derived great benefit from the prescription of argentinum nitricum, but she remained in a state of asthenia with low blood pressure in spite of my best directed efforts, which included the administration of several of the bile products.

On June 12th of this year I prescribed for her, because of her asthenia, the combination used in Case 1, one capsule twice a day, together with a combination of pancreas and bile, one capsule after each meal. Inside of two weeks these prescriptions controlled absolutely the mucous enterocolitis and made her feel better than she has felt from girlhood. Two months later I changed the prescription, because of a rheumatic condition which had developed, to the adrenal, spermin and thymus combination used in Case 6. The latter entirely overcame her rheumatism. She came to me again in October of this year and I found her hemoglobin a little low so that I changed the prescription to a capsule containing spermin extract and hemoglobin, one t. i. d. On the 12th of this month she reported herself as in every way improved, with the bowel trouble under control. She still has more or less pain in her neck with a tendency to spasmodic contraction of the cervical muscles, for which I prescribed Lachantes Tinctura 3x (1-1000) every four hours.

Remarks.—I am using the bile salt compounds in many gastrointestinal autointoxications where there is evidently a deficient secretion of bile and where there is also autointoxication and mucous enterocolitis, which is a subject I have long been interested in.¹ I have been able in the past to remove large numbers of these conditions by surgical work alone. I am

¹ *Vide Surgery, Gynecology and Obstetrics*. Sept., 1910. Also the author's *Clinical Gynecology* (Boericke and Tafel), 1917, p. 100.

more than satisfied, however, that by the use of the internal secretions with the bile products in mucous-enterocolitis we have at our command measures of inestimable value both before and after surgical work.

The foregoing cases have been selected at random from my case records. I might incorporate many more of like nature where possibly even more striking results have been obtained, particularly those where there has existed arterial hypertension and thyroid hyperfunction, but space will not permit. The beginner will be surprised at the number of instances where organotherapy will help him out. While concluding this paper a woman of 68 came into my office whom I had been treating for three weeks for an acute cystitis which recurred once or twice a year. There was pus in the urine, many leucocytes and squamous epithelial cells, with a colonic infection as a background. I had been washing the bladder with a silver preparation and had in addition to urotropin prescribed a number of remedies without relief. She was in constant distress and misery, caught cold on the slightest exposure, felt weak and prostrated and was utterly discouraged. Her systolic blood pressure was 140. In a fit of desperation I gave her a combination of thyroid and ovarian extracts and she experienced almost immediate relief, not only from her bladder symptoms, but generally. I did not give her another treatment. The endocrine combination probably raised her body defences to a point where she could resist the invasion and multiplication of the infective organisms entering her system thru the bladder.

Conclusions.

All of which is presented to the reader with the consciousness that in so doing the writer has only scratched the surface of a subject which is as yet in many of its aspects *sub judice*. It is one which must be amplified, refined and, doubtless, restated before it will be accepted generally by the profession as one worthy of adoption in more than a limited number of cases. This because of our lack of definite knowledge regarding the exact function of a number of the internal secretions. It is one, too, requiring for its solution cooperation on the part of the physiologist, the laboratory worker and the general clinician. There is danger of its being discarded because of over enthusiasm on the part of some of its advocates. Too much must not be

expected from organotherapy. Those who expect to cure by it lesions of the central nervous system such as locomotor ataxia and multiple sclerosis will be disappointed. Likewise one who fails to remove certain removable conditions which continue to perpetuate the complaint in hand before resorting to organotherapy will be disappointed. I have tried to emphasize this point in the clinical cases reported.

Inasmuch as the conditions for which it is most useful are usually chronic, the indicated organotherapeutic prescription should be persisted in for at least two or three months.

If the foregoing points are borne in mind, I am more than convinced that the properly selected organotherapeutic prescription is well worth while.

The time will possibly come when the physician can in a given case, thru laboratory tests or otherwise, prescribe exactly the necessary amount of each gland called for. That time has not yet arrived and it is still necessary for us to grope our way thru pluriglandular therapy, as much as this is to be deplored.

Applied Anatomy.

Where can a man buy a cap for his knee.

Or a key for a lock of his hair?

Or can his eyes be an academy

Because there are pupils there?

In the crown of his head what gems are found?

Who travels the bridge of his nose?

Does the calf of his leg become hungry at times

And devour the corn on his toes?

Can the crook of his elbow be sent to jail?

Where's the shade from the palm of his hand?

How does he sharpen his shoulder blades?

I'm hanged if I understand.

—*American Legion Weekly*.

THE DIAGNOSIS, DISEASES, AND THERAPEUTICS OF AMETROPIA¹

BY

GEORGE M. GOULD, M. D.,
Atlantic City, N. J.

In the "Cosmogony of Genesis," at once ancient and modern, the story of the creation of the inorganic terrestrial globe and waters required only 122 words; of the vegetable world, 66 words; of the non-human animal world, 150 words; but light and darkness, and time as marked by them, demanded 232 words. The comparative significances of these figures are validated by our latest science. Because of what value would be the world of nature or of life without light and vision?

The ordinary person cannot understand if told that light and color exist only in the sentient mind, and not at all in the physical universe of worlds, suns and stars, and prisms, and rainbows. The ether-vibrations that fill space are not light or color. The prismatic colors, the rainbow, and the sunset glory, all are psychic creations, made by the mysterious reality we call Life, or Soul, God, or "Biologos." Indeed, of all the arguments offered by religion or philosophy to prove the existence of God, none is so direct, complete, and convincing as this creation of the prismatic colors and their mixture as light. The brain and eyes in truth are the organs for transforming ether-vibrations into light and color, for making pictures, and for condensing them into psychic libraries we call memory, for guiding all action of the body, for constituting the personality or ontogeny and linking its past and present into the phylogeny. This and more as to the creation of intellect is

brilliantly suggested by the most common expressions of speech such as, *I see*, for *I comprehend*; the words *enlighten* and *enlightenment* as generalizations of intellectual and civilizational progress; "Jesus, the Light of the World", the *illuminati* as applied to those most advanced in mental ability, etc. And glass windows were the second of all agencies creating modern European civilization. Consider how crime and sin and misery were enormously lessened by street lights in villages and cities. *Licht, mehr Licht!* is the motto of civilization.

But philosophers and psychologists have failed to recognize that vision has been the chief agency creating and guiding the psychological and metaphysical bases and concepts of feeling and thinking. The scientists have not observed that the knowledge of the world of matter is intermediated by the laws of mind, these mental functions themselves being largely the products of the laws of light and color which, again, are psychical creations. Religious and ethical teachers have failed to learn that light and color do not exist outside of the brain, but are real creations of God—the perfect proof of a superphysical and divine Creator of Life and Humanity. The letters of the alphabet are the principal mechanisms that have created civilization and they are conventionalized pictures, the concrete results of vision, for intercommunication of mind with mind thruout the world, and the passing down the ages the knowledge of all to all. The alphabet was created and is functional only within the lightless and colorless chambers of the skull. The medical profession has not recognized that sickness, the greatest affliction, is so often caused by diseases of the eyes, resulting, first, in more imperfect vision, and secondly

¹ By invitation of the Oxford Ophthalmological Congress, Oxford, England, July 11-14, 1917.

in many mental, nervous and bodily reflexes, and diseases, functional at first, but leading to organic and lethal phases and bodily reflexes and diseases. The oculists have blundered, first, in failure to recognize that the great cause of diseases of the eyes themselves is ametropia; secondly, that as the eyes so largely govern every act, step and function of the body, the general systemic diseases are often the end-results of ocular malfunction; more important is the fact that the oculists have failed to diagnose ametropia with meticulous accuracy, and thus, by spectacles to make vision physiologic instead of pathologic. They have also not noticed the facts of right-eyedness and left-eyedness, their relation to right-handedness and left-handedness, and to spinal curvature.

The workers of the world have for their great word, *Efficiency*. But the greatest and most influencing factor is ocular efficiency. All factory, business and home efficiencies would be enormously increased, and profits greater if the workers had scientific correction of their ametropia. All morbidity and mortality rates would thereby be greatly lessened.

The eyeballs are double cameras for photographing the external by means of the scant octave of ether-waves which stimulate the retinal rods and cones, the stimuli transferred by the optic nerve-fibres to the light-and-color making wonder-world of the cerebral-organs, for the guidance of action in the outer world. It should not be forgotten that besides the octave of ether-vibrations utilized in making colors and light there are several other octaves that enter the eyes at the same time but are unutilized. The number of medullated optic nerve-fibres is about 438,000, the number of retinal cone-cells at birth between

3,000,000 and 4,000,000 (in adults twice as many) and the number of rods some 130,000,000. It has been estimated that there are some 56,000 visual differences. What a glimpse into the infinitely cunning art of the God of Vision!

But the eyeballs are living cameras and, therefore, in many ways inferior to the best kodaks and other optical instruments of science and art. The sensitive plate is in extent only about a couple of inches square and a large part of this space is to direct the small region of the macula to take the picture. While we are awake the sensitive film must be resensitized every fraction of a second during the years we live. The pictures, moreover, have to be "developed and printed" and stored, billions upon billions in a lifetime, in the infinite albums or libraries of memory and personality. And the ontogeny must pass their lessons and experiences down to the phylogeny thru a speck of living matter far too small to be seen by the unaided eye. But we must not forget that it is largely by means of pictures that mind, and memory, and personality come into existence and function. We think in and by means of the pictures created by vision and its mechanisms. The letters of the alphabet are conventionalized pictures, and by means of these letters has come civilization, and all that we value in life. The highest differentiated of tissues of the human organism is the brain, and genetically the eye is the only organ made directly from cerebral tissue. The brain, literally, comes out of the skull in order to see. The eye responds to almost the smallest physical force in the world—that is, light-waves are millions of times more infinitesimal than sound-waves. The eyes are the hardest worked of all organs. The safety and existence of human

lives frequently depend directly upon their accurate function, *i. e.*, upon mathematically exact coordination with and dominance of vision in the motions and localizations of the hands and feet, of external and distinct objects, etc. *Ubi motus ibi visus!* The perfection of visual function requisite in civilized occupations of infinite variety and differentiation is thus seen to be necessarily wanting in some way, or at some time of life. The startling truth comes to better recognition when we realize that in the past the entire complicated mechanism of vision was made and used almost solely for distant vision, while for the majority of its expert and educated workers, modern civilization chiefly and increasingly demands constant and accurate vision at near range. For this the mechanism often does not exist, and the attempt to compel the function brings disease. Nothing of like importance is so appallingly neglected by medicine and hygiene.

Moreover, to supplement the defects of the eye as an optical instrument, the eye itself and its mind must create a vast number of sciences and arts, telescopes, microscopes, innumerable instruments, with which to see what the eyes alone could not see with all their magnificent yet pitiful outfittings. And yet, and yet, we dare not fail to remember that beauty, loveliness, and art come to us only thru vision.

The Oculist.—Barring traumatisms our first duty is to prevent surgery. This is especially true in this country where we are fast developing an outrageous chirurgico-mania. And surely this is no unrealizable dream. Even traumatisms, foreign bodies, etc., are in civilized lands already lessening. There is no doubt that even now, in civilized countries, the great disaster, cataract, is wholly preventable. One oculist, at least,

can say that no patient while under his care has ever developed this disease. Scientific spectacles long preceding the cataract age will I am convinced prevent senile cataract. But it cannot do so unless the oculist believes it, and to believe one has to prove it, and to prove it one must first learn the great science and art of refraction. The chief distinction of medicine is that our calling is a philanthropic and even a religious one. Its great shame is that so many physicians are atheistic, materialistic, and selfish. And if the patient is poor he must have the same good treatment as the rich, without pay. But he does not always or generally get the same treatment and the poor need such medical help (spectacles) even more than the well-to-do. Filling this the student should not be allowed to refract and order glasses in dispensary or hospital without expert verification. We do not believe in the use of any human being solely as "clinical material."

The Oculist's Office and Tools.—I could not guarantee a perfect measure of ametropia if I were compelled to make use of the office and instruments of any ophthalmologist which I have seen. There is, for instance, in nearly all such offices some window, transom, or reflected light at the side or in front of the patient to torment or exhaust retinal sensibility and thus lessen visual acuteness upon which all tests depend. Other faults are common.

It is for me a matter of indifference whether the test-card is 20, 15, or 10 feet distant. But it is of prime importance that the test-letters shall be dead-white on a dead-black card. Black letters on a white background make a highly unphysiologic and imperfect result. And the choice of confusion-letters demands great care. The test-card letters should not be printed, but

painted by an artist, and the card should be placed about two feet below the level of the patient's eyes, the sizes graded, of course according to the standard rules. It is absurd to expose all the letters of the card, and so my card (on plate glass) is suspended in a dead-black case, one line only exposed at a time thru an opening in the front, the card itself raised or lowered from the oculist's seat by a touch on a counterweighting bar. Such a device, besides insuring scientific accuracy will save the oculist several wasted years in his lifetime. More years, and infinite vexation will be spared, with far greater accuracy secured, by a better trial frame than is commonly used. I have had several frames specially made for myself and friends. Description would weary. But they are expensive. And the test-lenses! Not even Lucifer, the bringer of light, could do good work with them, if of the ordinary. Because, such are too often of poor glass imperfectly ground, inaccurate, heavy, ill-fitting in any trial frame, impossible of rotation, the cylinders incorrect, and so on. Up to 6 D, they should be graded in eights both in the spheres and cylinders, the handles thin, those of the cylinders placed at 45° and 135° , thus easily rotated, at a feather-touch, in the slot of the trial-frame at any axis of the 180° . The differential or diagnosticating testing lenses are two each 0.12 and 0.25, pluses and minuses, with handles, shaped to be recognized instantly, about three inches long. I have spent many dollars in securing a special stool at the refraction case. The usual chairs or stools are calculated to banish the poor oculist to another world in too short a time, or to reduce him to semiidiocy. He is likely to get on that road easily enough because of the inobviable necessity of leaning to the

right (if he is right-handed) while doing his back-wracking job. To avoid this, in part at least, I have an oculist acquaintance who stands at one side of the patient, and another who squats in front, his head continuously dodging the patient's gaze at the distant test-letters.

The oculist's patients are worse than the patients of any other, specialist or general, because of many facts. For example, all the servants of civilization need glasses, some a large part of their life, many their entire life. Then, too, the most rampant, egregious, and numerous, of all the quacks and ignoramuses have everywhere, for several hundred years, fed upon the gullibility of the unpitied and unholpen "eye-patient." Consequently these patients have no conception of the medical and preventive significance of the relief of eyestrain, no knowledge or belief in what an honest oculist tells them when he prescribes or advises. The almost single idea they have is the utterly false one that glasses are solely to give them the sharpest acuity in distance vision. They feel outraged when asked to pay several dollars for lenses when they can buy at the department store, or of the refracting optician, or street trayman, a good fit and outfit for ten or twenty-five cents. It is also usually impossible to convince them that any disease of head, or eyes, or body can be caused by no glasses or by bad glasses; they see no need of glasses for any use except possibly for reading, writing, sewing, etc., and as regards dirty lenses, once a week, or year, instead of 6 times a day is sufficient to cleanse them. Then, too, the old superstition taught long by the medical profession is thoroly fixed in the warp and woof of the minds of the lay world that the eyes and their vision "are all right," and that it is utter non-

sense, this talk about any disease of eyes or body caused by lack of "specs." Connected with this is the fact that some patients will answer tests wrongly despite all one may do. Some have made up their minds they will not wear glasses, and so they answer incorrectly "on principle." Others will answer incorrectly because they have a fixed conviction against the fad for glasses. Still others do not want to work—their health or eyes so bad, etc. Vanity makes some patients prefer bad health rather than wear glasses. The prejudices and whims concerning spectacles are of many kinds. I recently stumbled on one of the most absurd held by Ruskin, who says:—"Everything that is lovely in the visible world is only to be seen rightly with the eyes which the God who made them gave us, and neither with microscopes nor spectacles. The use of instruments for exaggerating the powers of sight necessarily deprives us of the best pleasures of sight."

The art of measuring ametropia is truly an art and not much of a science. But it should be added that only a scientific mind can worthily do the art. The artist, we know is born not made—unless self-made, not taught unless self-taught. During my three undergraduate years, I was my own teacher and pupil in a dispensary, or eye-department of a great hospital. I confess that to a too large extent I learned ophthalmic wisdom or unwisdom at the poor patients' expense. Heaven forgive me! I squared with my conscience by thinking that I was making as accurate diagnoses and prescriptions, and as few blunders as my revered superiors and elders. I had become convinced by some 30 years of personal sickness and suffering and failure, at colleges, and schools, and in a dozen occu-

pations, that in reading, writing, studying, etc., my eyes were the cause of all my ills and misfortune. And this, too, in spite of the advice and treatment of many oculists for whose ludicrously useless prescriptions I had often impoverished myself. So I studied medicine to be able to test my own eyes and prescribe for myself. And as patient I have been infinitely grateful to my oculist ever since. In these last 30 years I have done an egregious amount of eye-work and have had nearly perfect health.

Since those early bitter years, also, I have learned that millions of my countrymen were suffering just as did I, and with a score or more of other diseases, local or systemic that I had escaped.

Crude suggestions toward acquiring the art of refraction are all that one may tell another. The so-called objective methods of measuring ametropia are of little or no value. Retinoscopy, by a rare expert, for very young children may be of slight occasional service.

First, and absolute, is the exceptionless rule that up to 40 or 45, largely depending upon the art, skill, and experience of the oculist, there can be no accurate diagnosis of the ametropic errors without cycloplegia. My own practice is never to use atropin for this purpose: It wastes too much time for the patient; other reasons suggest themselves. I use a 10-grain solution of homatropin to the ounce, with a dash of cocain added, instilling six times a drop in each eye about every six minutes, and I find, usually, the accommodation dead in about 45 minutes. I have never noticed the least tendency to produce hypertension by these drops. When the tests have been made, if desirable, I instil a few drops of eserin solution to bring the pupils and accommodation wholly or partially back to normal, or

to make the patient more comfortable. I lend my patients "London-smoked" spectacles to wear until the return of the pupils to normal.

The Practical Testing.—During the tests the patient must not cross the legs, nor cant the head, or rotate it to one side. The body should be kept as nearly vertical as possible. These rules are advisable partly because of the fact that the majority of patients have lateral spinal curvature, and the axes of astigmatism are changed or influenced by the lack of verticality of the head and body. There are a few cautions or rules that may help one to avoid inaccuracies. For instance:—no light from behind must strike the posterior surface of the test-lenses. If any accommodation whatever is present, never start the testings by trying any minus lens. Entire nations have thus blundered, making existing myopia greater, and turning low hyperopia into myopia. The mistake is because in low and even moderate hyperopic defects the low minus lens sharpens vision by challenging and overstimulating the ciliary muscles. This, once more, stresses the need of the cycloplegic. Every child is born hyperopic, but also astigmatic, because in all previous ages eyes were for securing sharp vision at a distance, when near-work, reading, etc., had not yet arrived. Civilization as we know it is a very recent affair and the hyperopic eye, unaided, cannot perform the duties suddenly thrust upon it. Hence the strain produces an enlarging of the eye-balls, generally, and sooner or later, greatly increasing myopia. But it comes to millions of us moderns unnecessarily and thru an ophthalmology which instead of preventing it often multiplies and morbidizes it, by giving too early minus corrections when they should be plus ones thus increas-

ing existing slight myopias into enormous ones that minimize or kill distant objects so that the soul is shut in a close-walled and windowless subjectivism. Any plus lens that increases acuteness of vision in the least proves the eye is hyperopic.

It is best to begin with a low power plus cyclinder fixing at once, approximately, the axis. If the error is high (as shown by low acuteness), quick trials with alternating 0.25 or 0.37, spheres and cylinders, soon bring approximate normality of acuteness. Then the use of the trial 0.12 testers, spheres and cylinders, both plus and minus, soon bring the fixation of limits and accuracies.

In the progress towards this ideal one may find that 20/20 "old style" gives neither the finish of the affair nor perfect acuteness, and, *e. g.*,

A. The low astigmatism suddenly reverses the axis.

B. There is amblyopia—but that may not be real, and other combinations may bring perfect acuteness.

C. There may be mixed astigmatism.

D. Is the amblyopia due to retinal disease, or cloudy media?

E. Or to a sad history of unscientific spectacles?

In cases of low and genuine myopia diagnosed under cycloplegia one may usually prescribe at once for patients under 40, the mydriatic estimate, if accurate, being correct for constant use.

In all hyperopic cases no prescription should be written until the normal accommodation has fully returned—in about two days, especially if eserine has been used. This is necessary because, chiefly, there may exist little, or much, or enormous hypertrophy of the ciliary muscles. This is all the more advisable with patients from 35 to 45 years old, and markedly if the lifelong hyperopia has been high.

In the last condition it is plain that presbyopia really begins at 35, 38, and surely at 40, according to the amount of the preceding hyperopia. It will be necessary in such cases to order bifocal lenses. This depends on occupation, on the existence of previous ocular or systemic diseases, and sometimes on other conditions, doubts, etc. Even the expert may find himself in trouble.

As regards astigmatism every eye has more or less, and the first proviso is that both the axes and the amounts must be determined with the greatest scrupulosity. I have known oculists who practically never looked for it, and ignoring the most powerful and universal cause of eyestrain. They have amassed fortunes and lived past the half century mark. Heaven forgive them! They are fast disappearing, I think and hope. The total astigmatism and the exact axes, when rigidly determined must be ordered for constant use. I have seen cases of amblyopia in the astigmatic axes only, or in their opposite axes; and then woe will follow for the patient and oculist unless the thoroughgoing neutralization has been made, and the patient, even then, may have to suffer for awhile.

Amblyopia, the reality, not that caused by the oculist's inability to search it out and measure it, is a command to us to resolve all doubts in the matter.

In truth, there are many more instances of irregular astigmatism than the novice or the careless is aware of. May I ask attention to a little device which has been of daily use and delight to me in fixing axes with precision. With the best correction possible in the trial-frame I use the bridge of the nose as a pivot of rotation of the frame, covering the excluded eye with a large blinder. By rotating the frame 2 or

3, 5 or 10 degrees the eye will easily detect a change of axis of 2° , 3° or 5° , and in many instances that little misplacing of the axes may mean new health and happiness to the sufferer.

Full Correction, or Not, of Ametropia?—

If certain of the accuracy of our diagnosis of astigmatism, both as regards amounts and axes, the full correction is always to be ordered. As to hyperopia, it is a different affair. Only the mydriatic can give us the exact measurement of this most common defect. And yet, of course we do not order the full amount except where presbyopia has become complete. Every patient differs from others as to the amount of the hyper-trophy of the ciliary muscles that may exist in a special case. There is no other problem with greater dangers than this when we come to writing the prescription. Rules cannot be made for future guidance, and different patients. We must study the patient, his occupation, the amount of near-work demanded, etc. Age has also to be considered. With high excesses of accommodation, the danger must be kept in mind that too high-power lenses will, for a time at least, make the distant vision so poor that the patient will for too long a time be unable to see well. If he leaves the glasses off, the abnormal excess of accommodation power will never lessen. Sometimes, even tho youthful, the patient may be compelled to wear bifocals until the overpowerful muscles lessen in strength. In all cases the accommodation must be left a certain freedom or play, but never so much as to run amuck.

As to anisometropia each eye must be treated as an independent organism, and given the lens best suited to bring it and keep it in function, preserving, certainly,

right-eyedness in the right-handed, and left-eyedness in the left-handed.

The mydriatic is necessary to avoid the too frequent crime of turning low hyperopias into myopias by minus lenses.

The question as to heterophoria, insufficiency, and squint, is for me easily, perhaps too easily, you may say, and dogmatically, answered; all have been caused by ametropia uncorrected or miscorrected, and the degrees of the muscular abnormalism mean solely that the eyestrain tended to throw one eye more out of function than the other. It is a case of *pis aller*. If the amblyopia of the more laboring eye has progressed to an extreme, not even the perfect lens will bring it back to usefulness, and any tenotomy for the sake of good looks will not alone be of any use either in cosmetic or visual results. In any case, and in all cases, I see, therefore, no benefit to be gained by tenotomy. Indeed, there is far more benefit, and often brilliant success thru the use of the best correction possible of the ametropia, and then training the macula back to fixation, and greater acuity, by the use of a blinder over the good eye, by prisms, and by ocular gymnastics. It depends of course upon the length of time and degree of the amblyopia, and also upon the will and obedience of the patient, and the inexhaustible patience and perseverance of the oculist. A young girl otherwise pretty and "hopeful" will prove a most helpful ally, and if you succeed in two years, you will have a crown of gratitude to wear all your life. Hence to the old command we thus ever return:—Get correct spectacles on the young who need them, and as early as possible. And warn that they must be changed every two years.

During my earliest professional experiences and years, I was still somewhat ruled

by the leaden weight of text-book and professorial opinion. The foolish myopic fledgling of a doctor, as well as the longest sighted authority must go thru some such experiences, or the world would be impossibly and impassibly full of quacks. The duty of every religious and philanthropic young physician is to preserve the good therapeutics of the elders, but to moult the old wearing-out feathers so soon as better ones will grow. While I was doing a deal of moulting the muscle-snipping mania for "insufficiency," heterophoria, "latent squint" or approaching strabismus, was at its wildest height all about me. Some inner whispering was always going on that it was all maniacal or money-making. Just then was brought to me a boy whose father had spent all his little-big fortune of some \$3,000 for a score or so of snippings of the overcontracting muscles, without in the least lessening the boy's symptoms of common eyestrain. He is still my patient, and both of us are still poor—and happy. For a considerable time I thought, at least possibly, that my beloved system of "prism-gymnastics" did the job, but it was not long before I was sure that the real therapeutic agents were lenses I had prescribed correcting the ametropia.

Concerning Presbyopia.—The very death-rate, and length of life are still largely determined by morbidity or by loss of serviceable vision. The habits formed in the dark ages, when incapacity for work meant death, are still present. When presbyopia came at 40 to 43 the worker in many callings had to stop—and had soon to die. There are even now, for six years, beginning at 43, 60,000 more deaths in 100,000,000 born than in the six preceding years. The pensioning systems of our times often only prolong the uselessness of old age, and

continue a preventable senility. Instead of pensioning systems we should at least do what is easily possible—provide suitable and beneficent occupations for the superannuated.

It should not be forgotten that the old rule which fixed the beginning of presbyopia at 40 is nonsense. If there were several diopters of precedent and uncorrected hyperopic defects, then the accommodational paresis which began in childhood would reach what we crudely call presbyopia long before 40. Moreover, the presbyopic defect does not proceed with equal speed in all patients. Measure presbyopia accurately and according to the near-work distance in the habitual tasks of life. I have had patients with no accommodation at 40, and others with seemingly perfect accommodation at 55. Many oculists had left unholpen a perfect junco of a young woman who with exceptional intellect had never been able to read a word of printed or written matter up to 22 years of age. It was a terrible tragedy and mystery to all her friends. She is now the wife of an American physician, and reads and writes as much and as easily as anyone. She had the presbyopia of a person of 60, *i. e.*, 3 diopters, and bifocal lenses had not been prescribed before she came to me. I have ordered bifocal lenses for children because of their subnormal accommodation or presbyopia. Moreover, presbyopia may differ in degree (or amount) in the two eyes, and if the same amount were added for the two eyes, one must thereby be handicapped or thrown out of use. The *cement*-bifocal which I devised in 1888 was the best tool up to the improvement—the one-piece *ul-ter*. But the honor of old Ben Franklin may not be forgotten. One pair of lenses for distance, and another pair for near-

work are rarely to be advised, because a large deal of eyestrain is not thus prevented. It may not be forgotten that the strength of the presbyopic lenses must be graded according to the occupational distance of the near-work. Some callings will demand 8 or 10 inches only, some 10 to 15, and some 16 to 24. I have found that some dentists and certain jobs ("fine gold work"), may require lenses giving easy and clear vision at from 6 to 8 inches.

Has anyone, I wonder, explained the fact that as presbyopia advances the axes of astigmatism, formerly at 90° , often turn slowly to 180° ?

Right-eyedness and Left-eyedness.—Everybody is either right-eyed or left-eyed, just as he is right-handed or left-handed. Neither ambidexterity nor ambiocularity exists. We come by right-eyedness or left-eyedness thru inheritance from our mammalian ancestry, in whom the right eye exclusively guarded and guided the right-side view, the placing of the right foot, etc., the left eye serving the same duty for the left view and foot. In the progress of ages our axes of vision have slowly turned from divergence to parallelism. But still the right eye controls every movement of the right hand and right foot, every stroke of the pen or pencil, etc., while the left eye is the master of the left hand. When writing on a flat desk or table the condemnable disease-fostering school-posture is caused by the fact that the right eye must see and dictate the movements of the pen or pencil and govern the writing, figuring, etc. The head is canted to the left, the neck in a twist, and the spinal column wrenched into a long letter S. Four thousand entering freshmen, fine American boys, of a great university, at my instigation, were examined by official experts, and 87.5 per cent. were found

to have permanent lateral spinal curvature. I judge that about 5 or 6 per cent. of young people are left-handed, and about 95 per cent. are right-handed. All school desks and writing desks should be pitched, or inclined at an angle of at least 30° , the paper or slate of the right-handed should be placed opposite the right shoulder, vertical and not skewed. The right eye can then see the pen and letters with the head and body erect. With the left-handed, paper and slate should be placed opposite the left shoulder, and then the spinal curve is again avoided. If the oculist can do nothing more to prevent the present morbid, and moribund writing posture and its trailing host of evils, sickness and death, we can at least see to it that in case-histories it is noted whether patients are right-eyed or left-eyed. A wrong spectacle lens may handicap the chosen right eye as the controller of right-hand action and writing, and thus make the patient left-eyed while he should remain right-eyed. The most tragical brutality is being carried on in many schools thru attempting to change naturally left-handed children into right-handed ones. Among many baleful results one of the consequences of this condemnable custom is stuttering, and others are many incoordinations, slowness (or "stuttering") of action, resolution, thought, reaction, etc., such as indecision of mind and action, sometimes ending in the "town-fool," ne'er-do-wells, weak-minded—and many sorts of misfits and incapables. The rationale of this I take it is as follows:—In the naturally right-handed child the cerebral center for speech (a single and one-sided organ) is in the left brain adjacent to the center of the right fingers and hand. In the left-handed child that has been mutilated by right-handed training the speech-center has been fixed

in and persists in its right-sided location, altho the right-handed writing and directing is transferred at once to the left brain. This inevitably cripples decision and celerity of thought and action, wrecking instantaneous speech and action. The roundabout and intercommissural track of the messages every second to the opposite side of the brain is likely to wreck speech, judgment and action, naturally causing stuttering and other diseases of speech, and of mental coordination. There is a positive loss of time, celerity of action, and of thought, in telegraphing across the brain by the intercommissural fibers. May I illustrate a bit by repeating that carpenters' benches, tools, screws, our door-knobs, etc., are made for the right-handed. I have had two carpenters who were compelled to make new left-handed benches and tools for themselves. They went into the army and learned at once that the drills and exercises were devised for the right-handed only. In the old times of our early American life each company of militia put its left-handed soldier-man at the left of the file so that he might carry his gun in the preferred left hand and not wound his right hand or the left of his next-to-right-man, by striking each other's muskets. In the cases of my carpenter patients this could not be allowed. But what is more interesting was the fact that in drilling, their guns had to be sighted from the right instead of the left shoulder. Our two left-handed carpenter soldiers were left-eyed of course, and were compelled, in order to aim, to use the left eye, and to depress the right below the level of the gun and aim with the left eye. The drill-masters and officers did not notice the fact. After the war these two men, in hunting, returned to left-shoulder, left-eye sighting

Carlyle, once hurt his right hand, and after studying the subject, he concluded that it was beyond the ability of the human mind to explain the origin of right-handedness and left-handedness. To one acquainted with cerebral localization of function it is a matter of easy comprehension.

Lastly, have it clearly understood by the patient that:

1. No eye, or its refraction, remains the same for over two years. Lenses must be changed, sometimes, in less than two years.

2. If relief of ocular or systemic diseases due to eyestrain has not come about, the patient must return in order to find out why, and we must closely and clearly inquire:

3. Has the patient worn the glasses during the entire waking life, as promised?

4. Have the frames become bent or misplaced in position?

5. Have the lenses been cleaned and polished, in the manner ordered, at least five or ten times a day?

6. Have the lenses been scratched, and their transparency dulled?

7. One patient returned several hundred miles because, in the wind, a grain of sand had flecked one lens, opposite the pupil, $1/100$ of an inch in diameter.

8. Stone-cutters, and other workmen often have injured lenses from flying bits of stone. A plano lens, "hook-front" is advisable in such cases.

9. If the axes of astigmatism are not 90° or 110° , a dropped-out lens may be replaced wrong side front, or up. A professor of chemistry was compelled to journey 1,000 miles to reverse a lens to the axis of astigmatism as ordered.

10. A "stuning" ribbon, guard or chain, on eye-glasses is really "stunning" to eyes and brain.

The Oculist and the Optician.—Some of my brother oculists have tried to act as opticians for their patients. That way lies disaster! We must direct our patients to get their spectacles of the optician, but not of such opticians as give percentages big or little to the oculist. Woe to such as refract

and try to take the physician's place. Many have turned themselves into rivals of the oculists, calling themselves "optometrists," "optometricians," "ophthalmetricians," "eye-measurers," "spectacle-experts," and a score of such names, preaching their ability and right to compete with physician-oculists for refraction work. In many such matters, with us, our *law* is lawlessness. It is, indeed, better than the plan of a great asylum that supplied two half-bushel baskets of spectacles, one of minus, the other of plus spherical lenses. The patients chose their own, paying ten cents a guess!

One of our duties as good citizens is to educate the public in matters visual and therapeutical; the quack optician serves us a good text and warning. We should be missionaries in a world filled with optical sin and suffering.

The lenses ground by the optician must be according to order, or neutralize precisely when tested by those of our standardized office-set. They must be centered, the pupillary distance accurate. They must be shaped according to the size and contours of the orbits. The lashes must not touch the lenses. If the lashes are so long as to force the distance from the cornea to the lenses too far, then the central lashes must be clipped a bit. The lenses should be inclined at least 10° or 15° ("top forward, base in") as nine-tenths of our looking is downward. The curves of the temple-pieces of the frames about the ears should conform to the irregularities. The nasal bridge should not be seamed because of too great pressure of the frame, nor the ears hurt by the curve of the temple-pieces. Of course no oculist will permit patients to wear the huge round lenses in fashion now, set in impossible frames, etc.

(To be continued)

A SCHEMATIC PROGRAM FOR A SOCIAL WELFARE COMMITTEE OF CIVIC, SOCIAL OR FRATERNAL ORGANIZATIONS.

BY

DR. JOHN F. MARTIN,

Washington, D. C.

Supervisor of Protective Social Measures, Interdepartmental Social Hygiene Board.

The social welfare of a community depends upon the interest the people take in the civil government, as to whether its functions are properly performed by the duly designated officials, civic progress and public health promoted, and anti-social conditions and ulterior situations suppressed or corrected.

It is essential for the citizens of a community to manifest an active interest in the functioning of the civil government to encourage public officials in their duties, also correct the tendency to lapse into lethargic inaction or indifference.

In a suggestive way the following protective social measures program for social welfare committees of civic, social or fraternal organizations may be of value. The scheme may be changed or amplified to suit the particular purpose in keeping in touch with social and civil conditions of a community.

From time to time, committees may meet to discuss situations and conditions, the problems being presented by the committees as a whole, or by individuals. The committees may present the result of their findings or conclusions to the particular organizations, assembled, for approval or procedure, and the adoption of resolutions if desired for presentation elsewhere.

A potential social measures program may be carried on by appointing the members of

a particular organization to investigate conditions, or appoint a social welfare committee. A social welfare committee may consist of a captain, with several lieutenants, for respective districts of a particular community. Alternating staffs may be of advantage and give most every one an opportunity to do his share of the work.

Certain members of a particular investigating committee may be assigned particular work. For instance, one to investigate dance halls, pool rooms and street conditions; another to act as travelers' aid at the railroad station; another to investigate café conditions and hotels; another to investigate charities, and so on. The usefulness of such a program being just what the organization desires to make of it.

In the functioning of such a program, the civil and social complexion of a community may be correctly diagnosed. The problems arising from day to day may be obviated in the future thru corrective methods. And it is essential that in order for such a program to be a success it must be complimentary to and cooperate and coordinate with the civic administration, for nothing is gained thru antagonistic procedures, unless certain abnormal situations that arise in civic administrations, from time to time, warrant such intervention.

The purpose of such a social welfare program should be to promote health and happiness in the particular community concerned. Social service case work with the pre-delinquent and delinquent female may be taken up.

Occasionally it may be necessary to employ confidential under-cover agents to obtain evidence relative to anti-social programs, to present to duly designated officials for their information and attention, and for a small sum of money a great

amount of evidence may be obtained, if it exists.

In conjunction with the card index file, a social survey record card may be kept under the same catalogued headings as the card index file. The social survey record card being for the purpose of recording everything pertaining to a particular person or subject. The card index record recording the name of the person or subject, together with a cross reference, the number of, the social survey record card.

CARD INDEX AND SOCIAL SURVEY RECORD CARD SCHEME, WITH INDICES AND SUB-INDICES.

Legal.

1. Laws, ordinances and regulations, needed to protect, circumvent or correct.
2. Law enforcement officials:—Police, probation officer, sheriff, attorneys (city, county, state, United States), police commissioners.
3. Courts:—Police, Civil, County, Superior (judges of), Supreme, United States.
4. City officials:—Mayor, city manager, council, health officer, principal of high school, physical director, school physician, superintendent of schools, public school nurse, (law enforcement functionaries listed elsewhere).
5. County officials:—Supervisors, county health officer, supervisor of county schools, (law enforcement officials listed elsewhere).
6. State officials and functionaries:—Governor, Legislature—Senate and House of Representatives, State Department of Health, State Department of Charity, Education, and Correctional Institutions.
7. State civic organizations:—League of Women Voters, Parent-Teachers Association, Women's Clubs (various), Social Hygiene Associations, etc.
8. Local, civic, fraternal and social welfare organizations:—Y. M. C. A., Y. W. C. A., Y. M. H. A., Knights of Columbus, Red Cross, Salvation Army, Associated Charities, Anti-tuberculosis Association, Rotary Club, Kiwanis Club, Chamber of Commerce, Mothers' Club, Travellers' Aid, Parents-Teachers Association, various Women's Clubs, etc.
9. National organizations and Federal Government departments and functionaries:—American Social Hygiene Association, American Public Health Association, United States Public Health Association, American Red Cross, United States Interdepartmental Social Hygiene Board, Secretary of the Navy, Secretary of War,

Congress—Senate and House of Representatives.

Frequent organization consideration and discussion, relative to social welfare problems and programs, are desirable in order to keep alive to the community situations and perform duties for the promotion of public health and civic betterment. Suggested subjects for general discussion being: Law enforcement, public health measures, sex education in the home and the public schools, charity needs, social service to army, navy, jails, prisons and U. S. Public Health Service Hospitals, etc.

A tremendous amount of good may result from a concerted social welfare program inaugurated by any social, civil or fraternal organization in any community, actively combating any anti-social condition that arises, most of which having a direct bearing upon immoral conduct and attendant evils, resulting often times in disease infection. The public health is national wealth, and the aim should be to protect the health of the living and the unborn.

Nutritive Value of the Proteins of the Barley, Oat, Rye, and Wheat Kernels.—

Osborne and Mendel (*Journal of Biological Chemistry*, March, 1920) report their studies on the growth rate of rats on diets which were comparable except in respect to the content and source of the cereal proteins contained in them. This comparative study of the nutrient efficiency of the entire proteins of barley, oat, rye and wheat kernels shows that on the whole, these four cereals do not differ much in their ability to promote growth. In contrasting the different groups of rats from the viewpoint of their subsequent history, the barley-fed animals appear to have grown a little the best, but the experiments show the possibility of normal growth for long periods where no proteins other than those furnished from the cereals are supplied.



RATIONAL ORGANOOTHERAPY

Hormone Therapy in Skin Diseases.—

The value of *hormone therapy* in skin affections is dealt with in an article by Scholtz in the *New York Medical Journal* (July 6, 1921). He enlarges on the influence of the endocrine glands on the condition of the skin, cites a number of cases, and concludes that the method is scientifically valid and clinically effective. The most definitely established dermatoses of this class are those due to hypothyroidism, and these he assigns to two groups: (a) various forms of dyskeratosis, as ichthyosis, congenital keratodermias, Darier's keratosis, lichen pilaris, Darier's keratosis follicularis; (b) certain dry squamous eczemas and certain cases of psoriasis, Hebra's prurigo, senile pruritus and hypothyroid pruritus, and possibly scleroderma. Indirectly and non-specifically, hormones are beneficial in various symptomatic dermatoses, such as acne vulgaris, rosacea, dietetic and vasomotor dermatoses, and diabetic eczemas. The best results are obtained by the administration of small doses of the appropriate gland extract for a prolonged period.

The Use of Pituitary Extract in Tonsil Infections.—Kaplan, in a recent issue of the *New York Medical Journal*, expresses the conviction that the pituitary gland, the tonsil and the appendix are functionally somehow related; what the total symptomatology amounts to when one or the other of these structures fails to perform its duties properly is still a moot question. He says that supraorbital headaches of a severe form and distressing abdominal cramps have been observed to follow tonsillectomies. Kaplan cannot say that pi-

tuitary extract is the only drug for these conditions, but very often half a grain of the extract once or twice a day, for a few days only, will suffice to impress the doctor with its usefulness. He intimates that so strong was the late Joseph Fraenkel's conviction in the utility of the tonsil and its protective influence over the appendix that he refused to recognize the possibility of the development of a purulent appendicitis in a patient in whom the tonsils were intact. Only when the latter were destroyed by disease or removed by the surgeon would pus develop in the appendix. All that Kaplan wishes is to impress physicians with the fact that the tonsils are removed more often than is absolutely necessary. He says that a stronger plea is untimely at present and would tend to produce friction where cooperation is desired.

Ovarian Extracts in Gynecologic Ills.—

As Bauer points out in the *Medical Press and Circular* (August 24, 1921), amenorrhea and dysmenorrhea, in the absence of any mechanical cause of obstruction to the flow of the menstrual discharge, are often merely manifestations of ovarian insufficiency. Were further proof needed, the well-marked effects on restoration of function of the administration of ovarian preparations would provide it. In amenorrhea which may be dependent upon so many other causes, we must first of all seek to determine to what extent it is due to physiologic constitutional influences—for example, pregnancy, incipient tuberculosis, anemia, chronic constipation, and so on. Any concomitant debility or anemia should be corrected, any tendency to constipation

overcome, before trying organotherapy. Professor Mossé remarks that this treatment is more likely to prove efficacious when, for any reason, amenorrhea interrupts previously regular menstruation. When the amenorrhea or dysmenorrhea dates from the age of puberty, the benefit is often not very great.

The close relationship of chlorosis to puberal amenorrhea was recognized as far back as the days of Hippocrates, and the relationship of the latter to ovarian insufficiency is pretty obvious. Altho this treatment does not always afford relief in what we may term "essential" amenorrhea, it may reasonably be expected to modify the conditions that lead to chlorosis. According to Spillmann and Etienne the internal secretion of the ovary has an antitoxic function after puberty, previously discharged by the secretions of certain other organs, consequently, when menstruation fails to be established, the organism suffers from general intoxication. There is no objection to associating ovarian with a ferruginous treatment; indeed, the combined treatment yields incomparably better and more certain results than the latter alone.

Among the other morbid states that are possible in relationship to ovarian insufficiency may be enumerated obesity, chronic rheumatism, various psychoses, Graves' disease, and pluriglandular syndromes. With regard to obesity, we know that this is very apt to follow castration in either sex, so that the influence, or lack of influence, of some internal secretion is not far to seek. Still, as ovarian insufficiency is only one of several possible causes of obesity, our success will depend on the accuracy of our etiologic diagnosis.

Symptoms of Adrenal Deficiency.—

Identifying the adrenals as the control station of oxidation, according to Weiler (*American Journal of Clinical Medicine*, Sept., 1921), gives us a plausible theory for the heretofore partly unexplainable phenomena of fever in general diseases. We must, he states further, bear in mind, of course, that toxins stimulate the adrenals to hyperactivity.

Now, if we consider the adrenal glands

as the seat of lesion, let us examine the symptoms of adrenal disease in these new terms.

The adrenals, being the seat of degenerative changes, fail to function properly. Hence, the low temperature and clamminess due to deficient oxidation, the marked and progressive asthenia, with great lassitude, due to insufficiency of muscular metabolism. The small and feeble pulse, weak cardiac action and the steady decline of blood pressure are due to inadequate metabolism of the cardiac and vascular muscles. The tendency to vertigo and mental torpor can be ascribed to ischemia of the cerebin, the result in turn of general vasodilation and circulatory torpor, resulting in the withdrawal of the blood to the deeper vessels. The bronzing is due to the circulatory stasis entailing the deposition in the epidermis of what has been chemically found to be an oxidized adrenal product, melanin.

Therefore, the true function of the adrenals is not only that of sustaining vascular tone, but to promote and sustain pulmonary and tissue respiration.

Because of the fact that, embryonically, the medulla is derived from the same tissue as the great ganglia, its active principle stimulates mainly the plain muscles.

The vessels responding most to adrenal secretion are those supplying the mesentery, the spleen, the kidneys and the other abdominal organs. Both the cerebral vessels and the vessels of the extremities contract in response to adrenal secretion when offered locally. But, following an injection of adrenal active principle, the general rise in blood pressure is so great that the more feebly-contracting cerebral vessels and the vessels of the extremities give way before the general vasotension and there results an actual dilation in these vessels.

There appear to be three distinct types of hypoadrenia:

1. Functional, as in tardy development, fatigue, old age, action of certain substances, etc.
2. Progressive, Addison's disease, caused by an organic lesion of the adrenals proper, or of their nerve supply, such as tuberculosis, cancerous, fibrous and other lesions.
3. Terminal complication of infections and toxinemias, owing to the exhaustion of

the secretory activity of the adrenals.

The prominent symptoms of functional hypoadrenia are asthenia, great muscular weakness, extreme sensitiveness to cold, cold extremities, hypotension, weak cardiac action and weak pulse; anorexia, anemia, slow metabolism, constipation and psycho-asthenia.



THE ANTI-BEER BILL.

To the Editor,
AMERICAN MEDICINE:
New York City.

Surely the opinion expressed in the June number of AMERICAN MEDICINE on the Anti-Beer Bill, so-called, is one that is due to inadvertence rather than to settled principle on your part.

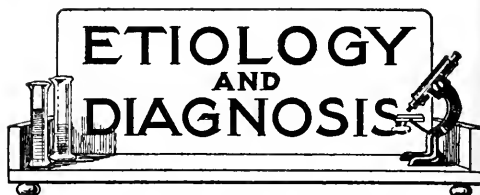
Your attitude is similar to that taken by the National Drug Manufacturers Association, the Patent Medicine Men and all the other 56 discussants of this bill before the Judiciary Committee of the House, with the one exception of the writer. This attitude you have expressed as follows:

"It is true that the seeming purpose of the latest Volstead Bill is to upset previous rulings concerning beer as a medicine. If it stopped there, no substantial objection could be offered against it."

Owing to the powerful pressure brought to bear by the influential bodies affected, all these objections have now been removed leaving only the clause relative to physicians which is that: "Only various and spirituous liquors shall be prescribed, and all prescriptions and all permits to prescribe any other form of liquor shall be void." This was the clause to which I objected, independent of the value of "Beer or any other form of alcoholic beverage as a medicine."

In reply to my request for the authority under which Congress was acting in dictating to the medical profession how they were to prescribe alcohol, I was handed a list of 110 physicians who had given their consent to this form of legislation by Congress thru the counsel for the Anti-Saloon League. I am gratified to state that since the original protest was made as stated above, the American Medical Editors' Association, the American Therapeutic Societies and some of the most eminent medical teachers and internists of this city have publicly protested this upon "similar grounds."

JOHN P. DAVIN, M. D.



Hypertrophy of the Anal Papillae.—In his practical and interesting paper read before the meeting of the American Proctologic Society, held in Boston, June 3-6, 1921, Hawley called attention to the fact, that many minor ailments assume a rôle of major importance in the mind of the patient, and that this is especially true of diseases of the anal canal on account of the very abundant and intricate nerve supply and consequent disagreeable symptoms and reflexes. Hypertrophy of the anal papillae is an important one of these, and one which has received scant attention by the medical profession.

He described their location, number and size, and the diagnosis, and said that the symptoms accompanying hypertrophy are many and vague, as follows: crawling or tickling sensation or uneasiness in the rectum, disagreeable pressure, pain, usually not severe, sometimes relieved and sometimes worse after defecation, feeling that defecation is incomplete or unsatisfactory, spasmodic contraction and hypertrophy of the sphincter muscle, constipation, pruritus ani, anal fissure, neuralgia of the rectum and sciatica.

In his cases, the most constant symptoms have been the feeling that the act of defecation is incomplete, and the uneasiness and disagreeable pressure which accompanies sphincteric contraction, which is probably due to the fact that the papillae are crowded down into the grasp of the sphincter, and relief comes only from their release after a more or less prolonged period. The presence of the papillae acts as an irritant to the muscle, causing spasmodic contraction, and daily repetition causes the muscle to hypertrophy and become over-tight. Neuralgia of the rectum is a common symptom and sciatica a frequent one, as shown in a recent patient, where pressure by digital examination on an enlarged papillae immediately caused pain in the right sciatica nerve.

Treatment consists in removing the papillae preferably with scissors; and, when the sphincter is hypertrophied, general or local anesthesia is employed, no confinement in bed being necessary.

Consideration of this subject emphasizes the necessity of a thoro examination in all cases where patients complain of any or many of the vague symptoms enumerated, before intelligent treatment can be instituted, just as in all branches of surgery, general medicine, or any of the specialties.

Diagnostic Import of Variations in Day and Night Urine.—Cottet, in studying the urinary

output, states (*Paris Medical*, June 26, 1920), that he makes a practice of having the urine collected in three periods, from 7 to 9 a. m., from 9 a. m. to 9 p. m., and from 9 p. m. to 7 a. m. At 7 a. m. about a pint of water is ingested fasting, and the effect on the diuresis is noted reclining, and on another day with the subject up and about. The normal ratio between the day and night urine is $\frac{1}{4}$ or $\frac{1}{2}$, but in pathologic conditions it may surpass 1:1. This variation may be due to the kidneys or to sluggish circulation. The density of the urine may vary widely in the normal day and night urine, but with pathologic conditions it keeps fairly constant, confirming the loss of normal adaptation to varying conditions. This nycthemeral testing of the specific gravity is particularly instructive. In four cases of chronic nephritis, the density ranged only from 1.008 to 1.0105, while in several healthy subjects the lowest and highest figures were 1.001 and 1.025. With a tendency to oliguria, when the amount of urine voided at night surpasses that of the day, and the night urine is highly concentrated, there is retention of chlorids and of water and a more or less apparent tendency to edema. If the urine is pale and with low specific gravity, we can assume that the kidneys are chronically diseased, with atrophy, and great reduction of secreting power, and weakness of the heart, unless we know that the subject has not been drinking enough fluids or has been losing fluids in diarrhea or vomiting. Excessive polyuria may be of nervous, hysteric or diabetic origin.

This fractioned control of the day and night urine enables us to distinguish between the renal and the extrarenal factors governing the output. One practical point it brings out is the danger for the healthy from insufficient intake of fluids, thus compelling the kidneys to void a highly concentrated urine which may damage them in time. On the other hand, persons with chronic Bright's disease and high blood pressure are liable to drink too much water, in the effort to "rinse out their kidneys," ingesting more than their kidneys are able to take care of, and thus exaggerating the nocturnal polyuria. They regard this as a sign of the good work being done still by their kidneys, when in fact it is a sign that their cardiovascular apparatus is being needlessly overworked and fatigued, and hastening the final breakdown.

Relation of Salivary Enzyme to Mouth Infection.—Just what part is played by the salivary enzyme (amylase or ptyalin) in the growth and development of the mouth and alveolar organisms in health and in pyorrhea alveolaris, according to Schneider (*Amer. Jour. of Clinical Medicine*, September, 1921), has not been determined as yet. We do know that this ferment is largely concerned in digesting the starch remnants which cling to and about the teeth during mastication, and thus very materially assists in keeping the teeth free from this kind of food residue; hence, being an important agent in mouth sanitation. It appears likely that this enzyme also assists in regulating the growth and development of the microorganisms

normal to the mouth cavity and, as a natural corollary, we may suppose that, with a deficiency of this ferment, the development of foreign microorganisms may be encouraged. The limited tests made would indicate that the parenteral introduction of the pyorrheal vaccine, to which a small amount of the ptyalin is added, results in the activation of the normal constructive cell ferments of the cells of the vaccine.

Standardization of the Wassermann Reaction.—Kohner (*Journal of the American Medical Association*, September 3, 1921), describes his efforts to build up a new standard complement-fixation test for syphilis. He does not call it a standardized test, however, because only future experience can tell whether it deserves that designation, but it is intended to meet the requirements of a standardized technic in the following ways: A. *Meeting the requirement of sensitiveness* by: (1) using a highly sensitive antigen; (2) using relatively large amounts of antigen; (3) using relatively large amounts of serum and spinal fluid; (4) heating serums for only fifteen minutes at 55° C.; (5) using a mixture of guinea-pig serum complements prepared in a manner tending to increase sensitiveness to fixation; (6) mixing serum and antigen for a brief period before the addition of complement; (7) using a primary incubation of from fifteen to eighteen hours at from 6° to 8° C.; (8) by close adjustment of the hemolytic system adjusted to cold primary incubation; (9) by using an antishoop or antiox hemolytic system; the test may be conducted with an antihuman system that is not as delicate as with an antishoop system; (10) by reading the reactions three hours after the conclusion of the secondary incubation. B. *Meeting the requirement of practical specificity* by: (1) adjustment of the hemolytic system to cold primary incubation; (2) adjustment of the dose of antigen to cold primary incubation, and (3) using numerous controls. C. *Meeting the requirements of technical accuracy and uniformity in results* by: (1) adoption of the principle that pipetting relatively large amounts of fluid (from 0.2 to 1.0 c.c.) tends to greater accuracy than measuring smaller amounts; (2) using a total volume of 3 c.c. with sufficient corpuscles and test tubes of suitable size to yield clear sharp, and easily read reactions; (3) using a reading scale furnishing hemoglobin in solution and nonhemolyzed corpuscles in proper portions. D. *Meeting the requirements of a quantitative reaction.* This has been accomplished by employing a series of dilutions or doses of serum or spinal fluid. Extensive trials have shown that five doses (six tubes, including the serum control) are sufficient and a method has been worked out whereby these may be prepared rapidly and accurately. The test also meets the requirements of economy and simplicity. The writer bespeaks the cooperation of serologists and asks them to give the new test a fair and unbiased trial for the purpose of gradually adopting a technic which the majority of serologists can subscribe to as being worthy of adoption as a standard complement-fixation test for syphilis.



The Treatment of Asthma.—Segard, writing in the *Medical Press and Circular* (August 10, 1921) has given an interesting résumé of the modern notions concerning asthma, both as regards the pathogeny of the affection and its treatment. Every case of asthma has some underlying cause. The attack is merely a symptom, and the first care of the physician is to discover that cause. The solution of this problem is not always an easy matter, owing to the polymorphism of the affection and to the multiplicity of its causes.

One fact to be borne in mind is that all asthmatics present a state of hypervagotonia, the hypertonia of the vagus being demonstrated by the examination of the oculo-cardiac reflex. Another important point is that the attack is started either by some excitation in the sensory domain of the vagus, the point of departure being one of the visceral organs, or by a humoral shock of anaphylactic nature.

There are thus two etiologic factors:

(1) In the first class, an immediate cause may be discovered—for example, bronchitis with emphysema or pulmonary sclerosis; or bronchitis with tuberculosis fibrosis. In other cases, there are nasal lesions (polypus, deviation of the septum), or mediastinal lesion (glandular asthma). These, however, by no means exhaust the list of causes which may give rise to an attack of asthma. Among them one may find: Gastric ptosis, appendicitis, dyspepsia, gout, obesity and brightism. Finally, certain asthmatics present a deficient action of the endocrine glands.

(2) In a second category of patients, no visceral cause can be found to explain the attacks. Here we are dealing with anaphylactic asthma—that is, the attacks are due to hemoclastic crises or more particularly anaphylactic crises, and are produced by the secondary action of various proteins to which the patients are specially sensitized. These proteins are introduced into the system either *per os* (milk, eggs, meat, bacteria), or by inhalation of dust containing the pollen of various plants, or animal debris (cat's hair, horse-hair, wool, bird's feathers), or laden with special odors and perfumes. The etiologic conclusion is that every asthmatic patient either belongs to the anaphylactic group or to the visceral group. These etiologic considerations have a very direct bearing on the treatment of the disease.

(a) Adrenalin excites the sympathetic and is a functional antagonistic of the vagus. As it increases the intra-pulmonary pressure and tends to produce congestion of the lung, a corrective should be combined with it—for example, pituitary extract. The following

formula may be employed: Adrenalin solution 1 per 1,000, 15 drops; extract of the posterior lobe of the pituitary gland, four centigrammes; Hoyer's saline solution, 1 c.c.

(b) *Vaccination.*—The substances to be employed vary with the protein to which the patients are sensitized. If one is dealing with a case of ordinary hay fever, pollen-vaccine should be used. In other cases, substances of animal origin such as milk, white of egg, etc., should be injected, in solutions which are made gradually more and more concentrated. In patients who are sensitized to some microbial protein, stock-vaccines corresponding to the causal germ (staphylococci, streptococci, pneumococci, diphtheric bacilli), or some pleurimicrobial stock-vaccine, such as the anti-grippe vaccine of the Pasteur Institute (streptococci, pneumococci, Pfeiffer's bacilli) should be used. Segard has obtained good results with the latter. In a patient who was suffering from a very violent attack which did not respond to the usual methods of treatment, he produced desensibilization with a single injection of $\frac{1}{2}$ c.c. of anti-grippe vaccine. In another patient who for over 20 years had suffered from more or less acute nocturnal attacks, he obtained a cessation of the latter by employing the same treatment. Danysz' entero-antigens consisting of intestinal germs, may also be used. In order to discover what particular protein is causing the trouble, one may have recourse to a series of cuti-reactions applied to the forearm, with various vegetable, animal or microbial proteins; a positive reaction indicating the variety to which the patient is sensitized.

(c) *Auto-Serotherapy.*—In practice one may withdraw a certain quantity of blood from the patient and after separation of the serum, re-inject the latter under the skin. An even more simple method is auto-hemotherapy. These methods have given good results in hay fever. Injections of animal serums (anti-diphtheric, etc.), are to be avoided, as they may give rise to serious trouble in asthmatics.

(d) *Peptonotherapy* consists in prescribing peptones under different forms. When it has been ascertained that in a given case, asthma is due to the absorption of meat, the attack occurring regularly after the patient has eaten meat, a cachet containing 30 centigrammes of peptone should be prescribed three-quarters of an hour before each meal containing meat. Another method is to administer peptones by the intravenous route, using the following preparation: Peptone 25 centigrammes; sodium chloride, 25 milligrammes; distilled water, 5 grammes. The injection should be made *very slowly*, and the dose employed just sufficient to produce a "peptonic action" without shock. If the intravenous method is inconvenient, the peptone solution (5 c.c. of a 10 per cent. solution) may be injected intramuscularly. Desensibilization is thus obtained, but does not last very long. Many other drugs have been advised by various authorities:

(i) In the intervals of the attacks: calcium salts, lithium benzoate, potassium iodide.

(ii) During the attacks: benzyl benzoate, 2 per cent. alcoholic solution 20 to 30 drops three or four times a day; a combination of caffeine

valerianate, digitalis powder, Dover powder and squills, aa 5 centigrammes with theobromine 50 centigrammes; emetine hydrochlorate, co-deine bromide (ampoules of 2 to 4 centigrammes), belladonna, etc.

The Allen Treatment of Diabetes Mellitus.—Williams (*American Journal of the Medical Science*, June, 1921), presents a study of 100 patients who had reducing substance in the urine from which he concludes as follows: (1) Statistics as to the prevalence of diabetes, cures obtained and other data, based on former and inaccurate and incomplete methods of study, are untrustworthy. It is quite impossible therefore to compare with fairness results obtained by the use of the Allen method and results obtained by methods formerly in use. (2) In spite of these difficulties, an extended clinical experience covering the use of all known forms of diabetes treatment justifies the conclusion that the Allen treatment is a distinct clinical advance. While permanent clinical cures are not attained, nevertheless patients for a considerable time are much benefited. (3) It is difficult to say how much is added to the expectancy of life of the diabetic by this treatment. In young people in whom the disease is most serious, it would appear that it is at least doubled. Middle-aged and elderly diabetics who are not too seriously afflicted with complications and when faithful to the treatment can probably survive the life expectancy of the average normal individual. (4) The Allen method is of the greatest service when instituted early in the disease. Most of the failures in its use are due either to serious complicating disease, or more frequently to unfaithfulness on the part of the patient. In the majority of patients, its value is in inverse proportion to the seriousness of the failure of metabolism.

Salpingitis.—Eason reported in the *Medical World* (September, 1921) he had found that heavy doses of sodium salicylate in either the acute or chronic forms of salpingitis give the quickest and most lasting effect of anything he has ever used; in fact, he has kept a few cases on this treatment for weeks or months, ridding them of symptoms of salpingitis that had been with them for five or six years. This also quiets the nervousness of these patients, one of the symptoms that is always most markedly present.

Varicose Ulcers.—Laude in a recent issue of the *Jour. de méd. et de chir. prat.*, describes the treatment of varicose ulcers by means of "Vienna cream," a method which permits of the patient following his occupation during treatment. The ulcer and surrounding parts are first carefully cleaned and rendered aseptic by moistening with ether. This is slightly painful at first, but the pain is dispelled by the sensation of cold which follows. The ulcer is then freely covered with Vienna cream, the composition of which is as follows: almond oil 140 gm.; lime water 60 gm.; zinc oxide 60 gm.; borax 40 gm. The borax is dissolved in the lime

water; this is mixed with the almond oil to form a cream, with which the zinc oxide is carefully incorporated. This cream, which will keep for several weeks without becoming rancid, is spread on the ulcer and covered with several layers of gauze and kept in place by a bandage. The dressing may be renewed in five or six days, by which time the discharge will have become apparent on the surface of the bandage. Complete cicatrization, even in extensive ulcers, will take place in from six weeks to three months.

The Use of Pilocarpine and Adrenalin in Bronchial Asthma.—In the *Archives of Internal Medicine* for February, 1921, Alexander and Paddock state their conclusions in regard to the treatment of bronchial asthma as follows:

1. In a series of twenty cases of bronchial asthma, a general examination with routine laboratory aids and drug tests revealed no constant associated condition.

2. The most frequent finding was abnormally increased sensitiveness to pilocarpine. These cases frequently presented constitutional defects (statuslymphaticus) and abnormal reactions described as characteristic of the condition called vagotonia.

3. The majority of cases reacted also to adrenalin with an abnormal rise in blood pressure and other characteristic signs—pallor, tremor, sometimes rigor—denoting increased sensitiveness to this drug.

4. A relation between low blood pressure and excessive adrenalin reaction was apparent, while the smaller number of cases with normal or high blood pressure gave regularly normal reactions.

5. Cases reacting excessively to adrenalin were found to be relieved by 0.25 Cc., a much smaller dose of the drug than is usually employed.

The Medical Treatment of Ulcer of the Stomach and Duodenum by Sippy's Method.—In a recent number of *La Presse Médicale*, Loewy gives in comprehensive detail the rationale of this method, which has been warmly endorsed both by Moynihan and C. Mayo, that whatever may be the first cause of gastric ulcer it is maintained by the combined action of pepsin and free acid on the exposed albuminoids. Sippy therefore aims at maintaining a neutral medium in which the pepsin will have no solvent action. So long as the acidity is controlled in this way, fasting is unnecessary. Gastric cancer must always be excluded before commencing treatment.

The technic consists of (1) rest in bed for 3 weeks; (2) a small meal every hour from 7 a. m. to 7 p. m. The meal is composed of concentrated food—100 grammes of a mixture of equal parts of cream and milk. (3) Midway between the meals, i. e. at 7:30, 8:30, etc., an alkaline mixture is taken with a glass of water. The following mixtures are used alternately:—

1. Heavy calcined magnesia
Sodium bicarbonate .. aa 50 cgm.
2. Calcium carbonate .. 50 cgm.
Sodium bicarbonate .. 1 gm. 50

(3) After the last meal the doses of alkaline mixture are continued every half hour until four doses have been taken. Half an hour after the last dose (*i. e.* 9:30 p. m.), the remainder of the gastric secretion is withdrawn by the stomach tube.

After two days of this strict diet, an egg and a biscuit or a little bread and butter may be taken in addition during the morning, and 100 gm. of cereal in the afternoon. Thereafter the diet is gradually increased. In this way, enough nourishment may be given to produce a gain in weight of 2-3 lb. per week. Samples of gastric juice are taken at least twice in the afternoon and thrice in the evening of each week. If free acid is found, 30 gm. of calcium carbonate are added to the alkaline mixture. Experience has shown that if acidity is controlled at the end of the afternoon it will be controlled at any other time during the day.

By the beginning of the fourth week the patient is able to resume his occupation. He takes three light meals a day—sufficient to maintain weight and at the same time exciting the minimum gastric secretion. After 10 weeks, and again after 16 weeks, the alkaline mixture is withheld for 5 days. Treatment is continued over one year at least.

There may be retention of gastric contents resulting from spasm. In these cases it may be necessary to give every hour:—

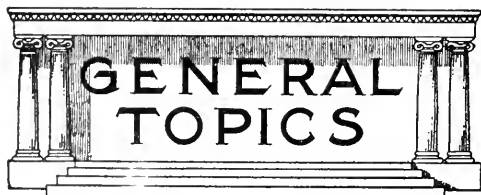
Calcium carbonate ..

Sodium bicarbonate .. āā 1 gm. 50

If more than 100 c. c. of acid secretion be withdrawn at 9:30 p. m. the administration of alkalies must be continued up to 11:30 p. m.

Treatment of hematemesis is based on the same principles—the hemorrhage resulting from digestion of a blood-clot. Only at first alkalies resulting in production of CO_2 should be avoided and replaced by calcined magnesia.

The results of Sippy's treatment are (1) disappearance of pain; (2) abolition of gastric retention; (3) arrest of hemorrhage; (4) rapid healing of the ulcer.



Danger to Hearing From Water In Ears.—So many cases of injury to the ears are being reported as a result of bathing, says Dr. Franklin W. Bock in a recent communication on the subject, that it is important to know just what is the cause of these infections and injuries and what is best to do to prevent and treat them.

Animals which spend part of their time submerged in water are supplied by nature with an automatic device which shuts off the ears when they submerge. Man has no such device and hence must use his own genius to guard himself against injury or infection.

These ear troubles come in three ways:

either from the impact of the water when diving or from the effect of irritants in the water which enters the external ear; a third way being due to the forceful blowing of the nose to clear it of water which may thus be forced thru the Eustachian tubes into the middle ear. The first two of these causes usually result in an inflammation of the ear drum membrane or the lining of the external canal and if treated early clears up with no reduction of hearing; if these cases are not treated, however, they may result in the extension of the inflammation to the middle ear which then results in greater or lesser reduction of hearing and maybe to a long siege of chronic purulent discharge from the ears.

The third of these causes results in injury and consequent inflammation of the middle ear and unless treated early usually results in a marked reduction of hearing.

Of course, the best thing is to prevent the entrance of "water in the ears" is possible. Many people have no trouble, but if one knows that water easily enters the ears it is wise to plug the ear with a small piece of cotton before entering the water; also for persons who are fond of deep diving this is a very wise precaution as it in some measure breaks the impact of the water.

If water does enter the ear, it is usually a very easy thing to get it out if a person will only take it easy and not get excited. Pulling the external ear violently or going thru all sorts of gyrations in an effort to get it out are useless and to be deprecated. These efforts may cause more trouble than the water itself. The best thing to do is to take a small pledget of cotton and twist it into a wick about twice the size of a tooth-pick and about an inch and a half long. Push this wick down into the external ear as far as it will go without hurting and leave it there for a moment. It will immediately absorb the water and when you remove the wick the ear is usually clear. A second or third application may be made if necessary.

If several applications do not relieve the situation it is probably due to the fact that the ear has an accumulation of ear wax in it. When the water enters the ear which has wax in it, it mixes with the wax and makes a kind of mud of it and any manipulation simply pushes this mud deeper into the ear and makes the stuffy feeling worse rather than better. Of course, a case that does not respond to these emergency measures should be sent to an ear specialist at the earliest moment as the longer the water remains in the ear the greater is the danger of irritation and subsequent infection.

Often when splashing around in the water a person will get a mouth full which starts a violent coughing or gagging and one is often tempted to violently blow the nose to clear the water out. This should be done very carefully for there is danger of blowing water mixed with the secretions of the back part of the nose up thru the Eustachian tubes into the middle ear where it too often causes serious trouble.

The early symptoms of trouble from water in the ears is usually a feeling as if the ear

were plugged with cotton. Rarely is there pain except the trouble be caused by a severe impact of water in diving.

In any case the best time to prevent trouble is the first few hours and those afflicted should be taught the importance of promptly consulting a doctor.

Prevention is better than cure; prevention is cheaper than cure; and also it is much better to take what seems an unnecessary precaution than to be sorry.

NEWS NOTES AND ANNOUNCEMENTS

The Bronx Physicians' Club, Inc.—Bronx physicians have established a medical center that will be unique in many respects. It will be an institution which serves as a common meeting ground for physicians and laymen, where problems relating to medicine of mutual interest and benefit will be given consideration. Thru the establishment of a well-appointed library in connection with an Academy of Medicine, it is hoped to fill a much-needed want, and as outlined will be a department from anything heretofore attempted.

There is no institution which serves the physician in an educational way after his graduation from a medical school, and the only course open to him is a postgraduate school, which after all, is a brief and limited course of instruction and altogether inadequate in keeping the practitioner abreast of current advance. A continuous advancement in the proficiency of the physician is demanded and to meet this need the organizers plan a continuation school for the physician where he may give, as well as receive, instruction. All branches of science allied to medicine and the public health will be considered, the work being in charge of committees consisting of specialists in their lines.

The Academy of Medicine, as planned, in addition to serving the physician as a school of instruction, will also undertake special research work in all problems of benefit to the public health and welfare. For the public, series of lectures will be regularly delivered on topics of child welfare, preventive medicine, public health education, and first aid to the sick and injured. All these lectures will be previously revised and approved by groups of specialists, so that the information will be the combined knowledge of unquestioned authorities.

The membership of this new organization known as the Bronx Physicians' Club comprises the members of the various medical societies and those active in hospitals, dispensaries, and the health department. Moreover, the scientific activities are open to physicians, members or nonmembers. To carry out this enterprise, the Bronx Physicians' Club must

erect an edifice within easy access of the people it is to serve, and it is estimated that the cost of erection and maintenance will be \$500,000.

In view of the worthy cause with its many activities of direct value to the public welfare, and in view of the sacrifices physicians are called upon to make in the hospitals and dispensaries and in the private practice, and also in view of the fact that all activities of the institution will be conducted without remuneration, the Bronx Physicians' Club feels that it is justly deserving of the support it asks, and to this end is soliciting funds and material aid. There will be a monster bazaar from October 8 to 15, 1921, at the 2nd Field Artillery Armory, at 166th Street and Franklin Avenue, Bronx.

Missouri Valley and Southwest Medical Association to Meet in Kansas City.—The "Southwest" and "Missouri Valley" Medical Associations will hold their joint session in Kansas City, October 25 to 28, 1921. Dr. E. H. Skinner of Kansas City is the "Southwest" president, and Dr. W. O. Bridges of Omaha is president of the "Missouri Valley." A four-day meeting is being planned with clinics in the various hospitals each morning and reading of papers in the afternoons. Five sections will hold sessions, comprising Medicine, Surgery, Obstetrics, Eye and Ear, and Genito-Urinary. Two general sessions will be held, and one evening session, when the orations will be given. Arrangements for clinics are being made by the officers and committees of the "Medical Veterans of the World War," which body will be in session during the week. On Monday, October 24, the "Mid-Western Association of Anesthetists" will be organized and present a program. Dr. Morris H. Clark, Sec'y, Rialto Bldg., Kansas City, Mo.

The Forthcoming Meeting of the American Public Health Association.—The American Public Health Association announces four phases of its semi-centennial celebration to be held in New York City, November 8-18, 1921:

(a) *The Scientific Sessions* will be held November 14-18. There will be programs of the following sections: Laboratory, Vital Statistics, Public Health Administration, Sanitary Engineering, Industrial Hygiene, Food and Drugs. There will also be special programs on Child Hygiene and Health Education and Publicity.

(b) *Health Institute*, November 8-12. During the week preceding the convention proper there will be organized demonstrations of the various types of public health activity in New York and environs: Health Department bureaus, laboratories, health centers, clinics, hospitals, etc.

The purpose will be to show health functions in actual operation, especially those which may be duplicated in other cities. In one sense, the Health Institute may be considered as a school of instruction in practical health administration.

(c) *Dr. Stephen Smith*, the founder and first president of the Association, who is now in his 99th year, will be the guest of honor at a ban-

quet to celebrate his approaching centennial and the semi-centennial of the Association.

(d) *A Historical Jubilee Volume*. "Fifty Years of Public Health." will be published about October 1. There will be articles by seventeen authors, relating to the accomplishments and present status of each of the important branches of public health. While concentrating upon the public health of the last fifty years, the book will describe the earlier beginnings of public health in an introductory way, and may, therefore, be considered a general history of public health from the earliest days to the present.

Detailed announcements, programs, and information concerning special railroad rates will appear in the *American Journal of Public Health* and the *News Letter* of the Association from time to time or may be had upon addressing the Association at 370 Seventh Avenue, New York City.

New Head of the Abbott Laboratories.—

It will be learned with great satisfaction by the many friends of Dr. Alfred S. Burdick that he has been elected to fill the vacancy as President of The Abbott Laboratories, caused by the death of Dr. W. C. Abbott.

He is a graduate of the Alfred University, Alfred, N. Y., and Rush Medical College, Chicago. He has been closely associated with The Abbott Laboratories for over seventeen years, and for the past six years has been Vice-President and Assistant General Manager. Dr. Burdick has been known to physicians generally as the Editor-in-Chief of one of the country's foremost medical journals, the *American Journal of Clinical Medicine*. His work in this position has received general recognition and his scholarly attainments no less than his administrative talents have won him the admiration of his friends the country over. A big, lovable man of great ability, the Abbott Laboratories are fortunate, indeed, to be able to command the services of Dr. Burdick. Probably there is no other medical man who is so well qualified by experience, training and broad mental capacity to "carry on" the work so ably launched and splendidly conducted by his predecessor. Dr. Burdick may count on the best wishes and hearty support and cooperation of his countless friends.

A Great Public Health Exposition.—The annual convention of the American Public Health Association will be held in New York City on November 14. It is expected that 5,000 delegates, consisting for the most part of health officers, of the cities of the United States, Canada, France and England, will attend this convention.

It is proposed by Dr. Copeland, the Health Commissioner of New York City, to hold a Health Exposition to display to these delegates the work being performed in this city to safeguard the health of the people, and at the same

time to educate the people themselves in all health matters. This proposal has been given the approval of the officials of the American Public Health Association, and the Exposition is, therefore, to be held in Grand Central Palace the week beginning November 14, under the joint auspices of the New York City Department of Health and the American Public Health Association.

Receipts from the sale of floor space will be used to finance the Exposition, but all profits from the sale of tickets will be used for the establishment of nutritional clinics for undernourished children, to help pay the expenses of the semi-centennial meeting of the American Public Health Association or for equally important public health purposes.

This enterprise is so worthy that it should be supported and promoted by every physician in the country. To make a success of the Exposition, it is necessary that those who are engaged in business enterprises having any relation to the health of the people should take floor space and make exhibits in this Exposition.

Mental Defects in School Children.—"The prevention and correction of mental defective-ness," says the U. S. Public Health Service, "is one of the great public health problems of today. Its influence is continually cropping out. For instance, recent studies have shown that feeble mindedness is an important factor in prostitution, and that a marked proportion of juvenile delinquency is traceable to some degree of mental deficiency in the offender:

"A recent state-wide survey in Oregon shows that more than 75,000 men, women and children out of a total population of 783,000 are dependents, delinquents, or feeble minded, and that more than 500 school children out of a total enrolled school population of 32,500 are more or less mentally deficient. The latter fact is significant when it is remembered that the condition of the children of today is the best possible index to the condition of the community of tomorrow.

"The Oregon figures are considerably lower than the average shown by the draft examination, indicating that they are certainly no higher than those that would be obtained in other States."

Origin of Fruits.—The strawberry comes from a cross between the native strawberry of Virginia and that of Chile. The raspberry is native in temperate Europe and Asia. The apricot originated in China. The peach was originally a Chinese fruit. The cherry originated around the Caspian Sea. The plum comes from the Caucasus and Turkey. The pear is native in temperate Europe and Western Asia. The quince comes from Southeastern Europe, the Caucasus and the Caspian region. The apple, one of the oldest fruits, originated in Persia, it is generally believed. The almond comes from Persia. The fig originated in Syria. The grape is native in southern Europe.

Special Therapeutic Article

TEST OF A NEW TREATMENT FOR TUBERCULOSIS CONDUCTED AT RIVERSIDE HOSPITAL.

BY

EUTHIMIOS H. L. TCHOR-BAJ-OGULU, A. B.,
M. D.,

Physician-in-Charge Tuberculosis Division,
New York City.

Upon permission received from the Director of the Bureau of Hospitals, Dr. Robert J. Wilson and the approval of Commissioner Royal S. Copeland, I was authorized by Dr. Thomas F. Joyce, Superintendent of Riverside Hospital to take charge of the experimental research work for the benefit (if any) of the tuberculosis cases of said institution and to determine as well if there was any merit in the preparation known as Nuforal (formio-nucleo-allyl) produced by the Nuforal Laboratories, Inc.

As the first important step was to obtain some fundamental knowledge and full particulars concerning the product, its ingredients and the therapeutic and physiologic effects upon pulmonary tuberculosis, an interview was arranged by Dr. Joyce for the writer and Dr. Jacob Oshlag. The latter is Attending Physician and a member of the Board of Managers of the Manhattan State Hospital at Ward's Hospital and had treated a number of his patients with Nuforal. At this interview, some of these cases were interrogated and examined by me and were found to be in far advanced stages of tuberculosis, with extensive signs of fibrosis. However, the absence of a knowledge of their previous condition made it difficult to determine the extent and

nature of the physical improvement. One fact, however, was significant; that the patients spoke highly of the treatment, adding that they noticed marked general improvement; felt much better and expressed an earnest desire to have the injections continued. These phases naturally are to be expected in all cases in which a new remedy for tuberculosis is tried. Therefore, they would not have impressed me, had they not been supplemented by the interesting facts that the marked abatement of objective symptoms was, in a number of second-stage cases, accompanied by several instances of negative sputa. In response to inquiry, I was informed that the ingredients contained in the product are formic acid, nucleinic acid and allyl sulphate; that it was pure chemo-therapy, that while no scientific data were available, a number of tests made by them on both insane and mentally normal cases had shown remarkably good results; and all were without a single injurious effect. The method of administration was by deep subcutaneous injection in the infrascapular space; and that the dosage was 20 or 40 minims q. a. d. Dr. Oshlag showed the writer a number of official cards from New York Department of Health and stated that a substantial number of cases showing positive sputum had, at the expiration of three months, become negative. This information was forwarded to Dr. Wilson by Dr. Joyce, and after consulting with Dr. Boze and Dr. Fischer, then attending physicians on the Tuberculosis Service, a test was decided upon and preparations were made for the treatment with the results appended.

Early in April of this year, Dr. Oshlag and his staff visited Riverside Hospital and all of the tuberculosis patients who were interested in the new treatment were invited to assemble in the hall. They were

addressed briefly by Dr. Cahill, of the Riverside staff and Mr. Hassack of Nuforal Laboratories told of the treatment and the favorable results achieved and that they were at liberty to apply for its administra-

As the hospital was taxed to its capacity, because of lack of physicians and nurses, under the circumstances the very best that we could do was to secure semi-scientific test data on the product to determine its

CLINICAL DATA OF NUFORAL TREATMENT AT RIVERSIDE HOSPITAL, DR. EUTHIMIOS.

SUMMARY AND PERCENTAGE OF RATING OF THIRTY-FIVE CASES OF TUBERCULOSIS UNDER NUFORAL TREATMENT.

RESULTS		COUGH	EXPECTORATION			NIGHT SWEAT		
			Quality	Per cent.	Quantity			
Favorable	26	74.5%	20	57.1%	24	68.6	14	40.
Unfavorable	4	11.4%	7	20.1%	8	22.8	3	8.6
No change	5	14.3%	8	22.8%	3	8.6	18	51.4

RESULTS		HEMOPTYSIS		SHORTNESS OF BREATH		APPETITE	
			%		%		
Favorable	13	37.2	16	45.7	17	48.6	
Unfavorable	2	5.7	2	5.7	5	14.3	
No change	20	57.1	17	48.6	13	17.1	

RESULTS		SLEEP		WEIGHT		TEMPERATURE		PULSE
			%		%		%	
Favorable	20	57.1	6	17.1	20	57.1	16	45.7
Unfavorable	1	2.9	29	82.9	8	22.8	18	51.4
No change	14	40.0	..	...	7	20.0	1	2.9

RESULTS		RESPIRATION LABORATORY REPORTS:—SPUTUM			
			%		%
Favorable	11	31.4	Pos.	24	68.6
Unfavorable	23	65.7	Neg.	11	31.4
No change	1	2.9			

RESULTS		PHYSICAL DIAGNOSIS		PATIENTS' OPINIONS	
			%		
Favorable	28	80.0	33	95.3	
Unfavorable	1	2.9	2	5.7	
No change	6	17.1			

tion with this distinct proviso:—That they would sign a statement "releasing the Department of Health and the officials of Riverside Hospital from any liability for injuries or damages which might result from the said treatment." There was immediate response from ten patients. These we called Group "A".

therapeutic value in tuberculosis, on the ten cases in question. If this proved satisfactory, we were assured that later on we would secure better cooperation from the Department of Health and the Nuforal Laboratories.

On April 26th, the first series of injections were given at Cement-Three-Building,

by the administrator of Nuforal. As the treatment progressed and the much-dreaded ill effects and expected deaths did not result, animated discussion followed and the new treatment became the chief topic of conversation among the tuberculosis patients. To my surprise, those who had feared to venture, at the beginning, saying "Let the other die if it's no good," now seemed only too eager to try the treatment, as it "appeared to be safe." These volunteers numbered seventeen and they were told to give their names to the nurse in charge who had been detailed to make necessary preparations. But before I knew it, they had applied to the administrator for the treatment and the latter, ignorant of my plans as indicated above, gave them the injections. This group we called Group "B". The total number under treatment had now reached twenty-seven.

It was interesting to note the progressive enthusiasm of these patients. It rapidly became infectious until soon we had another class of fifteen, called Group "C", a total now of 42. Of this number, 35 are represented in the tables given. Of the remaining seven, some were discharged, other did not take the treatment regularly and in two cases, treatment was discontinued as the patients did not respond well.

In groups "A" and "C" the research work was conducted with the greatest possible degree of thoroughness and with an interest which has not been exceeded in any other test of which I have knowledge. Space permits only the reproduction of one table, giving an exact summary of reports on all symptoms as obtained from observation and statements of patients. The total number of tables in the complete report is 18. These give individual results in all cases and on all symptoms.

The fact that out of 35 cases of these unfortunates, all in advanced stages of the disease, the greater number were relieved and improved—a result never before known at Riverside Hospital—indicates that the possibilities of Nuforal in the treatment of incipient cases should be of the most vital concern to my colleagues.

According to Dr. S. A. Knopf, the economic loss in human resources is \$900,000,000 a year from tuberculosis alone. And this in spite of 700 hospitals and sanatoria, 550 dispensaries and clinics and 2,100 open-air schools and local branches scattered thruout the country at a cost, during 1920, of \$40,000,000. (National Tuberculosis Report, January, 1921). Besides this, there are thousands of physicians especially interested in the problem, 3,000 exclusive tuberculosis nurses, more than 4,000 members of the Tuberculosis Association and over 6,000,000 American citizens as Crusaders, fighting this dread problem, according to a report made by DeForest.

Yet our return for such splendid work and such tremendous outlay is only a decline of 35% in deaths from the White Plague in 16 years! Is this a satisfactory balance sheet? And now we read of 100,000 newly discovered cases brought to light by the U. S. War Department medical authorities.

It is the consensus of the medical profession that 99 out of every 100 persons have or have had a focus of tuberculosis in one form or another during life and this opinion is verified on our autopsy tables particularly by pathologists and by students of the problem as well.

Under such conditions can we afford to turn our backs on anything that spells hope?

In view of the foregoing, I am prompted

to say that in spite of the innumerable failures of so-called "cures" for tuberculosis it is a grave error for the members of my profession to be blind to anything which promises hope to the afflicted, so long as the treatment is offered by men of unquestioned integrity, who make no promise of results, who state their formula plainly and give their services and their cooperation freely and fully. All this was done by the officers and administrator of Nuforal Laboratories. They adopted, without question, every suggestion made by Dr. Wilson, Dr. Joyce and myself and in simple justice I express my appreciation of their work.

Skepticism and suspicion are justifiable, but apathy and indifference should have no place in the mind of the broad, progressive and enlightened physician. We cannot procure 100% efficiency with 10% of effort. We must open the doors of our mind to all pioneers in medicine, regardless of how little or how much we may believe in their theories and ideas. The dreamer of today is often the genius of tomorrow. We cannot afford to follow in the footsteps of those who ridiculed Columbus, laughed at Fulton and scorned Harvey. We have no right to condemn what we do not understand, nor to sneer at the possible.

According to the latest calculations, there are about 1,680,000 cases of tuberculosis in the United States, and 160,000 adults and 50,000 children die annually of this disease.

I hold no brief for any one who tells me he can arrest the progress of tuberculosis. But I feel that I owe to humanity, to my profession, and to myself the sacred duty to investigate, to learn, to discard bias, to keep an open mind and, when I am convinced that a test can do no harm, to make that test.

It was with this duty in mind that the

experiment below detailed was conducted. And I am grateful to Commissioner Copeland, Dr. Wilson and Dr. Joyce for the opportunity given me to demonstrate that even for such cases as we get at North Brother Island, there may be relief and hope. The Department of Health of New York City is jealous of its reputation and more than reluctant to lend itself to experimentation.

This adds to my profound satisfaction in having accomplished something which, in my judgment, is deserving of the most careful consideration of my colleagues.

One table only is given. Copies of the remaining eighteen are on the record of Riverside Hospital. In conclusion, I wish to say that on August 1, preparations were begun for a new group of 24 patients on whom Nuforal is to be tested under the most rigid scientific conditions. A report of this test will be published later.

A Liberally Educated Man.—According to Barker, the following is Huxley's description of a liberally educated man: "That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength, and in smooth working order; ready, like a steam engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, not stunted ascetic, is full of life and fire, but whose passions are trained to come to heel by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all villainess, and to respect others as himself."

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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

The Moral Right of Medicine.—In the State of Massachusetts there has been rendered a decision by the Supreme Court, which is of paramount importance to the medical profession. There has been an affirmation of the constitutionality of a statute which provides that the Board of Registration in Medicine may revoke the right to practice of a practitioner who has been guilty of gross misconduct in the practice of his profession. The case arose following an order to show cause why a certificate of registration as a practitioner of medicine should not be "Revoked for gross misconduct in the practice of his profession." The misconduct was admittedly an agreement to perform, or to attempt to perform an abortion. The physician contended that his certificate of registration could not be taken away because he had not been convicted of any crime. Chief Justice Rugg, in a very well-organized and logical legal decision, answers the contention of the physician that the Board of Registration is without jurisdiction to revoke his registration and license to practice medicine. He calls attention to the fact that the right to follow a legitimate calling is protected by the Constitution, but that "This right with all its sanctity and safeguards is not absolute. It must yield to the paramount right of government to protect the public health by any rational means."

The most significant statements in his

decision are the following:—"Soundness of moral fibre to insure the proper use of medical learning is as essential to the public health as medical learning itself. Mere intellectual power and scientific achievement without uprightness of character may be more harmful than ignorance. Highly trained intelligence combined with disregard of the fundamental virtues is a menace. A physician, however skilful, who is guilty of deceit, mal-practice or gross misconduct in the practice of his profession, even tho not amounting to an offence against the criminal laws, well may be thought to be pernicious in relation to the health of the community."

"He had no vested right to prey upon society by the exercise of deceit, mal-practice or gross misconduct in the practice of his profession. His license to practice constituted no contract of that nature."

The justice of the decision is undeniable. Right to practice is in the nature of a contract with the state. It is, in a sense, a privilege granted, rather than an inherent right in its absolute nature. Failure to live up to the contract by one party has always sufficed to abrogate the contract. The state represents the public, and the public demands the fullest measure of protection against dangerous violations of contractual relations, particularly where the life and welfare of citizens are involved. Violation of the laws of medicine, and failure to

abide by the legalized ethics of practice certainly are not to be defended. The elimination of practitioners guilty of mal-practice works no hardship to the medical profession.

The decision of Chief Justice Rugg is to be regarded as a salutary exposition of a law that is designed to protect the reputation of physicians against the abominable characters who unscrupulously disregard the force of medical traditions of honor, and by their actions bring a measure of contumely and disgrace upon the medical profession.

Problems of Dependents.—When states assume the responsibility for children, it is reasonable to ask whether it is sound policy to remove children from parental supervision. At times, of course, there is a distinct obligation of protecting childhood by an enforced removal from the home environment. It is of particular significance that more study is being given to children in their relation to their ascendants as well as to their home environment, in order to determine upon an intelligent public policy that will deal adequately with individual children without throwing unnecessary burdens upon the organized society. Justice requires that dependents, defectives, and delinquents as separate entities, or combinations of any two or three of these classes, receive the form of care, institutional or otherwise, that will best develop their character potentials and, at the same time, protect the interests of the supporting community.

In *Bureau Publication No. 81* of the Children's Bureau is an interesting study of "Children Deprived of Parental Care," who are under the charge of numerous agencies and institutions in the State of

Delaware. In noting the parental characteristics of 73% of the children removed from parental homes, one is immediately confronted with the prevalence of unfavorable characteristics. One notes poor physical condition accounted for by tuberculosis, venereal diseases, epilepsy, with mental abnormality, obvious defectiveness and insanity, altho these figures are inconclusive as scientific diagnosis had not been utilized. The weak social characteristics are manifest in the histories of alcoholism and immorality, desertion, correctional institution record, and other dependency. This represents the stock from which issued the 50% children who formed the basis of the detailed study. It is rather significant that 428 of the children studied were said to be in good physical condition. Among the children whose mentality had been investigated 12 were below normal, and 25 actually mentally defective, but to this number there must be added at least 21 obviously defective, without the test of mental examination. It is highly suggestive that the mentality of the children reflects the impoverished mental status of the parents. It is impossible to make any correlations as the data are inadequate and inexact for both groups, with a little more adequate investigation for the children. Therefore it is only an implication that the children evidenced the biologic poverty of their origins.

In so far as personal conduct is concerned the children represented many types of delinquencies against person, property and public order, many of which might better have been excluded from the category of court cases.

Many Different Types of Delinquency—It is patent that in many cases of delinquency of individual children there is also

a social delinquency on the part of the community which assumes responsibility for the welfare of children. These children, as a whole, have poor school attendance; there are problems of irregularity of employment, poor vocational adjustment, hereditary influence beyond their control, and other examples of anti-social conduct. There is physical inadequacy, mental incompetence, and moral blighting, a large measure of which lies within the category of preventable effects. It is part of the function of a community to strengthen family life, to enable them to maintain standards of decency, to create healthful surroundings with ample opportunities for growth, recreation, education, and opportunities in employment for growing children.

It is necessary that there be understood, as correlated, the importance of a due economic return that will enable families to subsist with reasonable economic independence, and thus safeguard the growing generation. Mothers' pensions, a more intelligent solution of the desertion problem, the more adequate use of medical and psychologic examinations in schools, the development of special classes for backward children, the educational and vocational care of the feeble-minded, the exclusion of children from alms-houses, the growth of a more systematized program for the temporary care and shelter of dependent children are among few of the special needs of the children who today are paying back, in a sense, to their communities some of the sufferings they have personally felt as a result of a policy that has lacked foresight and wisdom. A large part of the problem of dependent children is the problem of an undeveloped civic conscience, and a fettered sense of responsibility for civic welfare, as manifest in the care of children.

Anti-typhoid Inoculation.—While rabid anti-vaccinationists are constituted so as to inhibit their reasoning powers from definitely ascertained facts, fortunately, the vast majority of people are amenable to reason. Blind, indeed, must be the individual who fails to recognize the protective value of anti-typhoid vaccination.

One of the most significant statements of the results of anti-typhoid inoculation appeared in the *International Journal of Public Health*, March-April, 1921. The experience of the French army may be tabulated as follows:

	Morbidity per 100,000	Mortality per 100,000
November, 1914 to January, 1915	67.8	98.6
February to April, 1915.....	282	39.0
May to October, 1915.....	209	6.05
November, 1915 to April, 1916...	80	1.98
May to October, 1916.....	37	2.05
November, 1916 to April, 1917...	9.3	0.50
May to August, 1917.....	5.7	0.4

This reduction of typhoid morbidity and mortality during the progress of the war, as the result of inoculation, is highly illustrative of the benefits to be derived. It is in marked contrast, for example, with the mortality rate during the Civil War which was 13.56 per 1,000. In the American army from 1915 to 1918, the typhoid incident rate per thousand varied from .08 to .30, with a death rate that averaged .03 per thousand. The mortality rate for the same disease among the civilian population, male, varied between .17 and .11. This is further evidence of the fact that anti-typhoid vaccination is a valuable factor in reducing both the mortality and the morbidity of typhoid fever. Sanitation is an inadequate explanation of the reduction, as it is evident that sanitary conditions for troops in the

field were not as effective as those supplied to the civil population. Nevertheless, the mortality rate among soldiers from this disease during 1917 was only one-quarter that of males in the civil population. Nor must it be forgotten that the army was comprised largely of young males of the ages during which typhoid fever is most dangerous.

The experiences in the French and American armies were duplicated in the Italian, English and German armies. Statistical data indicate that mortality among the vaccinated, when the disease actually attacks them, is far lower than among those not vaccinated. For example, the following table may be adduced as an illustration of the benefits in lowering mortality among those infected:

	Incidence per 1,000		Mortality per 1,000	
	Non-vaccin.	Vaccin.	Non-vaccin.	Vaccin.
English Army (foreign service)	30.4	5.39	16.9	8.9
German Army (Herero War)	99.0	51.0	12.8	6.47
American Army	6.05	0.48	0.46	....
Japanese Army	14.52	1.0	1.66	0.28
French Army (Western Morocco) 1912	168.44	0.18	21.13	0.09
Italian Army (1912)	35.3	0.3	7.10	....
Spanish Army (1914) 18,000 men	21.33	2.41	4.03	....

These two tables are sufficient evidence of the preventive value of anti-typhoid inoculation in so far as rate of incidence and the rate of mortality are concerned. Both are significant and should serve further to convince the general public of the importance of this procedure as a protective measure in guaranteeing reasonable safety against typhoid infection. They constitute an argument from experience that is unanswerable.

Utilizing Hospitals Socially.—An unwillingness to recognize that the full benefits of modern medical science are not being given to all types of the public is re-

sponsible for considerable agitation against efforts to socialize medicine. In the *Boston Medical and Surgical Journal*, September 22, 1921, E. L. Hunt faces the situation frankly by suggesting the use of hospitals as diagnostic centers in such a manner as to meet, in part, the arguments of those in favor of social legislation. He regards it essential to utilize existing agencies which may expand their work and enlarge their scope in such a manner as to provide a broader distribution of the benefits of organized medical service.

The basic character of diagnosis influences him to propose that the full diagnostic facilities of hospitals "be opened to the public in general by a system of graded charges and confidential reports to the referring physician, such as will secure to

both the patient and the physician the satisfaction of continuing their relation on the basis of correct diagnosis, and, consequently, of adequate treatment." This plan would make available to the general public the advantages of equipment, special training, and laboratory methods. The hospital plant would be utilized to a larger extent. The general public supporting the institution would have the opportunity of special service while retaining the services of private practitioners. Under the present régime, hospitals are, for the most part, given over to the treatment of the poor in the wards, and of those of larger means who can afford to pay the fees demanded from private patients in rooms. A large

industrial class, self-respecting, and of moderate incomes find themselves more or less distressed financially if they are to receive attention in hospitals.

It is evident that the scheme proposed would modify this situation, and enable patients from all types of economic groups to receive the forms of diagnostic investigation which are beyond the individual equipment and training of physicians in general. This is not a reflection in any way upon private practitioners. There is no harshness in calling attention to the lack of laboratory facilities in the average doctor's office. The failure to supply one's self with all the apparatus requisite for a thoro investigation for all sorts of diseases does not indicate the frequency of their usefulness to any one physician. When one recognizes the part that the laboratory plays in hospital diagnoses, it is evident to what extent the extension of these laboratory facilities would benefit both physicians and their patients.

Communities have a right to expect from the institutions they maintain and support a complete use of the plant. There is a reasonable wastage of time, equipment, and money thru failure to make the most of our institutions. The suggestion, therefore, that hospitals alter their plans so as to provide in larger scope thru diagnostic consultations, in cooperation with family physicians, merits careful consideration. The idea of group consultation methods is by no means new, but thus far there has been an inadequate adoption of the plan. Each particular community has its institutions operated on a slightly different scheme, and therefore, there must be individual modifications of hospital and dispensary programs by those whose points of view are dominated more by interest in

human beings than in medicine as a profession.

Syphilis and Gonorrhea.—The past two years have evidenced material advance in the organization of programs for combating venereal diseases. The medical, educational and legal measures which have been instituted in various states of the Union are briefly indicated in *Public Health Reports*, September 2, 1921.

More significant, however, is the tabulation, by states, of the reports of venereal diseases. It is a matter of common knowledge that gonorrhea is far more frequent than syphilis. The compilation of statistics of the War Department, as disclosed in a report of the United States Interdepartmental Social Hygiene Board, suggests that the ratio between syphilis and gonorrhea is nearly 1.9. It is impossible to determine whether this relationship also exists in the civil male population or in the general occurrence of the two diseases. The facts as found in the army are due to the control of diseases under military rules and are not to be duplicated in civil life. In the minds of the public, and some of the medical profession, the Neisserian method is regarded lightly. Its infectivity and its effects upon the general population are deemed more personal and less dysgenic in effects upon the racial stock. Syphilis has a current bad reputation. The fear of after results in late life, its place in the cause of paresis, locomotor ataxia, and general neurosyphilis, together with its serious effects upon the race make it a matter of far greater concern to the general public.

This varying attitude towards the two diseases is well exemplified in the matter of the two diseases. One cannot doubt

that while the figures for syphilis may be inaccurately conservative in numbers, the number of patients with gonorrhea reported is but a small proportion of the total occurrence of the infection. From July 1, 1918 to June 30, 1920, the following reports were made by different states (round figures are used):

	Syphilis	Gonorrhea
Alabama	13,000	11,000
California	6,000	7,000
Connecticut	3,700	2,900
Florida	8,400	2,100
Georgia	10,600	11,500
Kentucky	4,200	4,900
New York	46,600	13,200
Pennsylvania	1,000	500
Rhode Island	2,300	1,100
South Carolina	9,600	8,800

The Reporting of Venereal Disease Incomplete.—These figures indicate the woe-ful inadequacy of the reporting system as at present employed. It is obviously false that syphilis actually equals or exceeds gonorrhea in the respective communities mentioned.

But evidence on the other side of the morbidity is shown in:

	Syphilis	Gonorrhea
Wyoming	280	900
West Virginia	2,400	8,300
Wisconsin	700	3,700
Washington	2,100	5,400
Vermont	600	1,100
Texas	17,000	26,600
South Dakota	297	1,170
North Dakota	400	1,200
New Jersey	6,800	12,000
New Hampshire	600	1,100
Nebraska	2,400	5,100
Montana	900	2,300
Massachusetts	9,400	20,900
Louisiana	3,800	7,300
Illinois	18,800	28,300
Colorado	2,400	6,200

These statistics, in so far as they represent facts, merely indicate the reports that have been made. They give no definite idea concerning the relative frequency of the two diseases, nor do they evidence the degree of defectiveness in reporting either

one of the diseases. There is nothing manifest to show duplications of reports any more than there are signs of the co-existence of the diseases in the same individual.

This incomplete summary of a two years' experience of some of the state carries with it a lesson of fundamental importance. Regardless of the efforts of education, or the institution of legal restrictions for the control of prostitution, the most effective work in the control of venereal diseases does not become possible until there is established an effective system of registration of those infected with the venereal disease. Posters, exhibits, and lantern slides may have decided values for the prevention of venereal disease, but their use to the community is by no means as valuable as the prompt treatment of syphilitics with arsphenamine. The establishment of clinics, and the treatment of patients by physicians, dispensaries, and hospitals are limited by the failure of the cooperation of the patient, unless there is some system evolved to require the individual patient to submit to treatment, until he is no longer a source of danger to the community. For such a type of venereal disease control, there must be a more complete cooperation on the part of physicians, and a restriction of counterprescription for the venereally diseased.

Until states and municipalities insist upon the reporting of syphilis and gonorrhea there can be no satisfactory program for the control of venereal diseases. Apparently, at the present time more stress must be placed upon the contagiousness of gonorrhea, as well as the importance of filing a record card for each person presenting himself with the disease, as the basis for organizing proper regulations for the control of such disease carriers.

In a work of this character it is exceed-

ingly important that the organized medical profession should not merely comply with the existing laws but should urge the adoption of such rules and regulations as may be required to safeguard the public. The benefits of a system of registration have been manifest in the control of tuberculosis, and the advantages that have accrued from this procedure will be even more evident in the registration of the victims of venereal diseases.

A Uniform Licensure Certificate.—The necessity for a national board of medical examiners has long been recognized. The importance of a single standard test for medical practice that would be acceptable to the responsible boards of various states in this country, and the licensing powers abroad is undeniable. Fitness to practice medicine should not be determined by geographic divisions, but by proven competence. The National Board of Medical Examiners, after five years of existence, has been successful in having its certificate recognized by twenty states of the Union, the Conjoint Board of England, the Triple Qualification Board of Scotland, the American College of Surgeons, and the Army, Navy and Public Health Service Medical Corps. This represents a tremendous advance in the system of medical licensure.

In order to extend the opportunities for securing its certificate the Board proposes to conduct two written examinations covering the theoretical phases of medicine, including diagnosis, prognosis, and therapeutics in class A medical schools. A third examination of a practical character covering the clinical branches will be given by subsidiary boards to be appointed in fifteen

cities of the country, with wide geographic distribution so as to be convenient for applicants in all sections of the country. Fees of twenty-five dollars each for the written examination, and fifty dollars for the practical examination will be charged.

State medical societies should urge upon the Board of Regents of their respective states, that the certificate from the National Board of Medical Examiners be accepted in lieu of the special state examination now demanded. From all indications, the types of examination afforded are thoro, searching, and sufficiently complete to demonstrate the fitness of candidates for the practice of medicine. It may be urged that there is too great rigidity demanded in the examinations thus far provided, and in consequence of future general adoption capable men might be denied the privilege of medical practice, if state examinations were to be discontinued. It is more likely that state examinations have been less thoro-going, and thus there have been admitted to practice some individuals not fully qualified to assume the responsibilities involved in medical practice. Certainly, New York State would not be desirous of admitting to practice those licensed in other states with lower qualifications for medical practice. The general public is protected best when the exclusions from practice result from a high standard of examination, recognized to be fair and determinative by the consensus of medical opinion thruout the country. Ability to practice medicine in Idaho should be recognized as of the same worth as ability of practicing in Massachusetts or California. The needs for meeting the problems of specific diseases are certainly the same in the three states.

The effect of a uniform national practice

act, as manifest in the uniform examination, would be to elevate the teaching in medical colleges, and would, undoubtedly, result in the exclusion of all institutions failing to meet the qualifications of the grade A medical college. The elimination of sub-standard medical colleges is to be desired. It is unfair that students of medicine should have their future imperiled by the failure of a few medical institutions to present the highest type of training and experience.

The plea for the unfortunates who might be prevented from entering medical practice is more than counteracted by the plea of the public for the best trained type of physician. Public health demands that there be the one standard of medical practice, and that, the highest attainable in the light of our present knowledge. It likewise requires confidence in the licensing agent which is to determine the fitness of practitioners. In these particulars no organization possesses a higher claim for recognition than the National Board of Medical Examiners.

Eugenics.—The recent International Conference on Eugenics brought together many leaders in eugenic investigation from America, England, France, Mexico, Italy, Norway, Sweden, Bohemia and Scotland. A particularly active part was taken by numerous representatives of the Carnegie Institution of Washington, possibly better known as the Eugenics Record Office.

This institution is designed to serve as an authoritative director of studies of the biologic and social forces which affect the welfare of mankind. While probably only one-tenth of mankind consists of a

stock dysgenic in character, the dilution of racial power thru unfortunate matings demands an increasing familiarity with the hereditary defects for which this portion of the population may be responsible. For constructive processes it is essential to establish systems of control and elimination of this part of the community. Obviously this is not a simple matter.

Eugenics is charged with the responsibility of determining what matings are fit test for society. There is no criticism implied in the admission of a lack of sufficient understanding of the social, economic, and biologic factors that govern marriage, or fecundity any more than there are sufficient data on the nature and method of inheritance of the multiplicity of human traits. It is essential, therefore, that as rapidly as the facts of inheritance are ascertained they should be disseminated. This demands, naturally, an investigation of genealogy in relation to character, temperament, physical well-being, and social characteristics which can only be properly achieved thru the cooperation of the public at large.

The negative phase of eliminating dysgenic factors in the population is by no means as consequential as the improvement and conservation of effective parents thru encouraging the reproduction of the better racial stock.

It is vitally important that the positive phases of eugenics should be thoroly appreciated by society if progress is to be secured. The interest of the state cannot be aroused unless a sufficient group of citizens exerts its influence in order to promote necessary legislation. While eugenics is primarily a biologic science, its roots dip deeply into the social structure and involve sociology, economics, history, philanthropy

and medicine as well as various other sciences. The basis of study is the family, and the physical, mental, and moral traits of families must be studied *in extenso* in order to discover any underlying laws of heredity for the purpose of securing suggestive information regarding potential lines of education for offspring, and particularly for giving some basis for the intelligent determination as to the biologic possibilities of contemplated matings.

Predictability of the outcome of the fusion of various strains of stock would be highly desirable. To bring this about, however, there must be accumulated and analyzed a vast number of heredity charts. A biologic genealogy is of tremendous importance. Unfortunately, it requires an intelligent type of person to complete the elaborate records that are of most value. Nevertheless, the gain from the study of the biology of families would be of more value to the race than the mere collection of genealogic data for the purpose of finding out familial relationships to ancient or mediæval royalties, courtiers, or ladies-in-waiting.

The interest of physicians in the physical reformation of society must certainly involve an appreciation of the value of facilitating the study of eugenics. Those of an inquiring trend of mind may perform a valuable service in compiling heredity charts in relation to the definite physical conditions. Others may wish to investigate their own ancestry with a view to gaining knowledge concerning the potentials of their own children. While still others may find pleasure in studying the origin of their own characteristics. To all those who believe in the value of improving the human character, but who lack an adequate background of eugenic ideas and

ideals, we would recommend that they get in communication with the Eugenics Record Office which invites consultation and offers its large experience in explaining methods, and interpreting data, compiling schedules, and in giving effective cooperation.

Eugenics is a comparatively young science, but its promise to humanity constitutes the hope of the future.

Employment Certificates.—The establishment of physical standards for working children is recognized, tho there is a vast difference in the practice in various states and communities. *Bureau Publication No. 79* of the Children's Bureau deals with the report of a committee appointed by the Bureau to formulate standards of normal development and sound health for the use of physicians in examining children entering employment and children at work.

It is obvious that the child who goes to work between the age of 14 and 18 years requires some special protection, if it is desired that he reach maturity in health and with undiminished vigor and vitality. It is for this reason that there is a large amount of public opinion tending to keep children out of industry until they are at least 16 years of age. The purpose also includes raising the standards of education by demanding school attendance until this period. If, however, children are obliged, for one reason or another, to enter industry there should be some mandatory provision for a physical examination before securing an employment certificate. This already exists in eighteen states.

Something more, however, is required than the physical examination on entrance

to employment: namely, more provision for the regular re-examination of working children, particularly during those first industrial years when the strains of industry are most likely to work to his physical disadvantage. The object of a physical examination is to prevent children entering unsuitable occupations, or to make it impossible for them to enter any industry for which they are unfitted without jeopardizing their physical well-being. The first examination on entrance to industry is an inadequate safeguard against the brevity of periods in employment and the frequent changes of jobs that result. A child may be well fitted for one type of employment, but completely unfitted for another. Hence, certificates for employment should be specific in character and with each change of occupation there should be readjustment of the certification in order to secure the maximum protection. An initial examination can only safeguard from those hazards which are known to exist in the particular occupation for which the child is being certified; and new physical examinations or at least new certifications should be required when a change of employment occurs.

The Committee that has carefully studied the situation urges also the necessity for the provision of adequate facilities for the medical examination of all children of school and pre-school age. The reasons for this are obvious; namely, to prepare children for their occupational life by correcting all existent handicaps in so far as may be possible, and to give such directions and regimen for health as will prevent the development of weaknesses in their physical organization.

That there is much wisdom in the certification and examination of school children

is patent in the light of our war experience. Industry, in a sense, is a part of the struggle for existence for which one should be as well fitted as for bearing arms against a hostile foe.

The physical standards for working children are no different than those that should be demanded for all children, the only difference being that periodical re-examination is more essential in order to obviate the handicaps that may arise from some inherent hazards of occupations or from the stresses of work beyond the strength of the enthusiastic and willing, youthful worker. In order to have efficient, mature workers in a community it is essential to safeguard the health of those who enter industry before their physical body has achieved maturity. Society protects itself in protecting its children.

Success.

It's doing your job the best you can
And being just to your fellowman;
It's making money, but holding friends,
And staying true to your aims and ends
It's figuring how and learning why,
And looking forward and thinking high
And dreaming a little and doing much;
It's keeping always in closest touch
With what is finest in word and deed;
It's being thoro, yet making speed;
It's daring blithely the field of chance
While making labor a brave romance;
It's going onward despite the defeat
And fighting staunchly, but keeping sweet
It's being clean and it's playing fair;
It's laughing lightly at Dame Despair;
It's looking up at the stars above,
And drinking deeply of life and love;
It's struggling on with the will to win,
But taking loss with a cheerful grin;
It's sharing sorrow, and work, and mirth
And making better this good old earth
It's serving, striving thru strain and stress
It's doing your noblest—that's Success.

—*The Rambler.*



MEN AND THINGS

Clinical Investigation, Essential to Determine the Therapeutic Value of Drugs.

—In an exceedingly interesting article (*Med. Record*, Sept. 10, 1921) emphasizing the importance of the clinical study and investigation of drugs, Wilcox very properly says that the results of laboratory research should not be accepted without question. In the last analysis the clinician must pronounce the verdict in regard to the worth of a drug. To this end, the author says that substances derived from the indigenous vegetable kingdom and used extensively by well-known and earnest practitioners, should be the subject of intensive clinical study, in order that their employment may be more intelligent than is possible from purely empirical tradition. Especial reference is made to this class of drugs because the great complexities of chemical composition peculiar to all substances of vegetable origin add to the difficulties in reaching accurate conclusions concerning them. For example, questionnaires have shown that cactus is in frequent use in the treatment of cardiac and circulatory disorders comparing favorably in extent even with digitalis. Yet scepticism as to its value is frequently expressed, based apparently upon the results of laboratory work by an English observer. As his results were so out of harmony with the practice of excellent clinicians, the most important botanist in this country reported that the material used was an interesting plant in no way related to the substance supposed to have been used. Later a laboratory worker in this country undertook another investigation and reported the substance inert. As the conditions under which this investigation was undertaken were peculiar, it would be charitable to suppose that the material employed was not an active one, due to faulty collection

and selection or pharmaceutical preparation. Yet anyone who knows how to employ instruments of precision can demonstrate that any of the active preparations of this plant possess the peculiar properties of increasing the frequency and force of the cardiac contractions. Such laboratory investigations as these only reflect upon the accuracy, honesty, and general credit of the pharmacologist, and detract from his reliability.

Progress in Aerial Transportation.

—When physicians in the East read that a sanitarium recently established in a Western state had announced as part of its equipment an aeroplane ambulance for bringing emergency patients to the institution, they were inclined to believe this was purely a bit of spectacular publicity. But to those who know of the marvelous progress that is being made in Europe in aerial transportation, there was nothing strange or spectacular in the sanitarium announcement, and it was simply recognized as a move in accord with the latest methods of the well-equipped sanitariums of European countries. An editorial in the October issue of the *Old Colony Magazine* furnishes startling evidence of the wonderful advances that have been made in air travel all over Europe. According to the writer of the editorial just referred to, "commercial and passenger aeroplanes are now leaving Le Bourget aerodrome near Paris at the rate of two every five minutes, and the Paris Old Colony Club can now arrange air passage to London, Nice, Brussels, Amsterdam, Berlin, Bucharest, Venice, Prague and Warsaw as well as a special tour of the battlefields in ten hours that usually occupies three days. The newest way of covering the battlefields is in an armchair in an observation window of

a plane. Swift automobiles take members from the Club to the hangars.

"The new air time-table, which is now part of the equipment of the Paris Club and will soon reach the New York Club, shows that it is now possible to cover Europe in about one-quarter the time taken by the best trains.

"One can now leave Copenhagen at 10:30 a. m. on the Transcontinental Air Limited—replete with buffet service and bar—and arrive at Hamburg at 12:40, Bremen at 2 p. m., Amsterdam at 5:15 p. m., and Rotterdam at 6 p. m.

"From Rotterdam one can either go to London in a fast three-hour plane, or one can continue the voyage thru Europe via Brussels and Paris. This can be done either by taking a 'local' express to Brussels and there change for Paris, or a thru air limited for the French capital direct from Rotterdam or Amsterdam, leaving the former place at 1:30 p. m. and arriving in Paris at 5 p. m.

"From Paris radiates an air service which is already competing seriously with train and boat lines. One can take a postal express to Bordeaux and from there taxiplanes can be hired for Toulouse, where the great Air Overseas Limited leaves for Casablanca and Rabat, Morocco. This trip takes nine hours, and stops are made, if necessary, at Barcelona, Gibraltar and Algiers. The Trans-Mediterranean Service has been running for seventeen months, and has so far unrecorded a single accident.

"Travelers to Constantinople take the air 'Pulmans' of the Rumanian Air Line, which hold eighteen passengers and make the journey with one stop to Bucharest in eleven hours—and from Bucharest continue the journey by the Balkan Air Passenger Service to Sofia, Athens and Constantinople. The longest single line from Paris is that to Warsaw, which operates two expresses each way daily.

"Leaving Paris at 6 p. m., the planes reach Strasbourg for breakfast at 8:30, Prague, Cheko-Slovakia, at 1 p. m. for lunch and Warsaw for dinner at 6:30 p. m. By train the journey, with frontier delays, takes a minimum of two days and generally three.

"Berlin expresses can be taken from London, Brussels, Rotterdam, Amsterdam and Hamburg, and from Berlin fast air-limiteds leave at all hours of the day for Copen-

hagen, Stockholm, Munich, Warsaw and Christiania.

"It is estimated that more than 2,500 people daily use the airplane commercial service, and but seven fatal accidents have been recorded so far this year.

"The only discomfort is the vibration and noise and a commission of experts is seeking to overcome these. It is believed that a sound-proof salon will be the solution."

This article well states in conclusion that as American business men are the chief patrons of the European service it seems that the birthplace of the airplane should act.

Medical men who have occasion to go to Europe and wish to accomplish much in a limited period will do well to take advantage of the opportunities now offered by the air service.

Healing the Wounds of War.—The physicians of England, France and America can take a great deal of satisfaction in the way they responded to the plea of the physicians of Austria for aid in saving the children and helpless ones of the Dual Empire, when the end of the war left these unfortunates in imminent danger of death from lack of food, clothing and medicines. The medical men of the allied nations had suffered as much as any other class of the civilian population. They had as much reason as any other men to nurse their enmity against the people who were responsible for the awful calamity that fell on the civilized world that fateful day in August, 1914. The families of doctors were no more free from suffering, or the sacrifice of devoted sons, than those of men of other callings.

But when the struggle came to an end, among the first to come forward and show their willingness to do their part to help lift the burden of destitution, starvation and disease which four years of war had imposed on the people of the world, were the physicians of all nations. Enemy or ally, it made no difference. The only consideration was the fact that there were human beings in direst misery and distress, little children of mere skin and bones, with their little hands outstretched for food, old men and women, sad-eyed and dumb with the hopelessness of their condition, stricken mothers, terrified at their inability

to relieve the suffering of their little ones; fathers crushed by the tragedy of their powerlessness and despair. To bring to these, the real victims of the war, the earliest possible aid was imperatively demanded of those whom God had spared from such terrible afflictions. In previous issues, we have referred to the response medical men gladly made to the call that went forth to all humanity when peace finally came.

It is far from our intention to exalt or magnify any part the medical profession has played in the world-wide effort to decrease the suffering of the World War's victims. But when the story of the post-war activities, in behalf of the sick, the starving and sorrow-laden people of Europe, is finally written, not the least inspiring chapter will be that which tells of the help and service American physicians—and their colleagues in England and France—gave to the hungry and disease-ridden people—the children and the aged especially—of enemy nations.

That this humane work, notably in Vienna, and the attitude of the majority of medical men of both sides, have done much to heal the wounds of the late war, and bring to a badly disorganized world, the substance rather than its shadow, of peace, few will deny.

Numerous signs have become evident during the past year or so, showing the growth of international friendship among medical men and scientists generally—a condition which holds greater promise of world progress than the average person realizes. A particularly striking indication of the foregoing can be seen in the visit which Dr. Lorenz, the famous Vienna orthopedist, proposes to make to this country in the near future. Dr. Lorenz, whose scientific skill and ability are well known to the physicians of America, has announced that his forthcoming visit is intended to mark his appreciation of what the United States has done for the children of Vienna.

"I will offer my personal professional services to those children of poor parents who may require my attention and surgical help," *The New York Times* quotes him as saying: "Deprived of their former prosperity and reduced to the very depth of despair, the people of Vienna are entirely unable to repay Americans at this time, but each member of the community will

forever feel grateful to the Americans, and each of them in his own way will give expression of his appreciation.

"It has occurred to me that, as far as I myself am concerned, I could best give vent to this sentiment by offering my professional services. Great and overwhelming as such a task may be, my modest endeavor to tackle it will be a sign of how deeply I am impressed by the generous American charity.

"My mission will by no means interfere with the American medical profession, as far as it is working in my line. I am fully aware of the fact that America was the birthplace of orthopedic surgery, and that its adherers took the lead in many questions and up to the present time are still taking the lead. I, nevertheless, would feel honored and happy to submit once more to their judgment the simplicity as well as the efficiency of my methods, so much more as some of these are quite new and not yet known methods which in my experience yield results even in cases which are still considered incurable.

"In this manner, I would be able to show my gratitude also to many professional men for what they have done for me during the last trying years."

Dr. Lorenz may be sure his visit to our shores will not be misunderstood. Indeed, we are confident he will receive a welcome from his professional colleagues in this country that will leave no doubt in his mind of the liberality and breadth of view of American physicians. He will find the right hand of fellowship outstretched to greet him on his arrival.

The American Public Health Service Needs No Defense.

—No matter how excellent work a government department may do, there are always some individuals who are ready to pick flaws in its achievements. An evidence of this can be found in the tendency in some quarters to criticize the Public Health Department in regard to the care and treatment given to the ex-service men who have been under its charge since the close of the war. To those of us who really know the admirable way the Public Health Service has been conducted under Surgeon-General Cummings, and the faith-

ful manner in which the needs, hospital and otherwise, of the ex-soldiers have been looked after, there is no explanation or defense required. We know the magnitude of the problem, and the difficulties presented by the whims, misconceptions and mistaken ideas that the sick and injured are prone to entertain. But there are always those who are ready to form hard and fast conclusions on apparent facts or half-truths, and we are glad Surgeon-General Cummings has issued a statement to answer the hasty criticisms of these people. It is a shame that men who have rendered as capable and conscientious service as Dr. Cummings and his assistants, should be forced to defend labors that deserve the highest commendation. But this, alas, is all too often the price men have to pay for serving their fellowmen. We who practice medicine know only too well the ingratitude of humanity.

The statement that follows cannot fail to convince any honest critic that the Department has discharged its full duty to ex-service men, and met the problems that have arisen with sympathetic intelligence, good judgment and fidelity.

"The furnishing of hospitals to care for disabled veterans was the primary task assigned to the health service," the statement says, "but to it were added sundry sorts of work that seemed necessary to its full discharge. For instance, the service established, in all parts of the country, supervisors, whose chief duties were to search out suffering and disabled soldiers who were unaware of their rights under the law and to guide them in making applications for such care as they needed. The providing of hospitals, however, was the main duty and that duty has been thoroly discharged by the health service. No ex-soldier who could produce any reasonable evidence of his right to hospital care has ever been denied it by the health service. The insistence on at least primary proof has proved to be essential; cast-off uniforms are cheap and masqueraders in them are not lacking, and if every one who applied for hospitalization were admitted without at least some investigation, no room would be left for the rightful applicants. That the hospital service provided has not always been what it should have been is not denied. Defects have occurred—defects which probably troubled the

health service more than they troubled the vast majority of patients—but they were due to the immensity of the problem and the swiftness with which it came upon the country. Not that the Public Health Service failed to foresee what was coming—it did foresee it. As a result of this foresight, on December 15, 1919, the Secretary of the Treasury reported to Congress that within two years hospital facilities would be required for 30,660 patients, and that \$85,000,000 in instalments would be needed to provide this. That the report was justified appears from the fact that little more than a year and a half later, 27,000 patients were being cared for by the Public Health Service, about 10,000 of them in private hospitals under contract. Nevertheless, when that request was made the Public Health Service was subjected to a great deal of criticism for asking for so great a sum. It was also urged that the facilities for the care of disabled soldiers that had sufficed during the war (for instance, the hospitals in the army camps) would serve very well for them when the war was over. These councils prevailed, and no money for construction was appropriated. Certain limited funds that had been provided in 1919 by Congress were, however, available for construction, purchase, and for leasing. With these so far as they went, existing facilities were expanded and others were leased or bought and certain base hospitals taken over from the army and from the navy were improved. In addition, the use of certain limited facilities in national soldiers' homes were made available. Those who have criticized the facilities offered in the hospitals should realize that they were the best that the Public Health Service could at the moment obtain. With a certain percentage of the available accommodations it has always been largely a choice of evils; and the service has taken the best it could get, not because they were satisfactory, but because it had to take something."

Our Cover Portrait.—This month's picture is of one of America's famous surgeons, a man who in some respects had a greater influence in bringing American surgery to the point where it won international recognition, than any other practitioner in this country. Garrison in his splendid

"History of Medicine" does not hesitate to say that Samuel D. Gross (1805-84) of Easton, Pa., professor of surgery at Louisville, Ky. (from 1840 to 1856), and at the Jefferson Medical College, Philadelphia (from 1856 to 1882), "was the greatest American surgeon of his time." Continuing, Garrison states, "He wrote the first exhaustive treatise on pathologic anatomy in English (1839), which passed thru three editions and was highly thought of, even by Virchow. He also wrote an authoritative treatise on diseases of the genito-urinary organs (1851), containing the first account of the distribution of urinary calculus; the first systematic treatise on foreign bodies in the air-passages (1854), and an important two-volume system of surgery (1859), all these works being extensively illustrated. Gross invented many new instruments, made original experiments upon the effects of manual strangulation (1836) and wounds of the intestines (1843) in animals, dissected and described specimens of molar pregnancy (1839), introduced deep stitches in wounds of the abdominal wall, performed laparotomy for rupture of the bladder, myotomy for wry-neck (1873), and first described prostaticorrhea (1860). He knew the literature of his subject well and his histories of Kentucky surgery (1851) and of American surgery down to the year 1876 are authoritative and accurate monographs. His biographies of Drake, McDowell, John Hunter, Richter, Paré, Mott, and others are all attractive reading. Gross was a strong personality, a stalwart figure, with a beautiful, benignant countenance. His works were crowned, as the inscription on his funeral urn reads, by 'the milk-white flower of a stainless life.' His statue stands by the Army Medical Museum, Washington, D. C. He was the greatest of the German-American physicians."

Lives of men like Gross stand out as a constant inspiration to those who come after them. What finer legacy could they have left us!

Teaching Health Thru Medical Service to Industry.—The position of a physician in industry has developed from one indicating a sort of benevolent attitude on the part of the employer, to a protective device against the excessive cost brought

about by accident and injury, shortening of the period of disability, and a sort of intermediary in industrial relations. The doctor or industrial surgeon, and the industrial nurse are very important agencies for educational measures, as is pointed out by Dr. C. E. Ford, writing in the *American Journal of Public Health*, June, 1921. The closest possible relation should exist between the private or industrial physician and the public health official. Public health departments, heretofore, have in a way limited their services to the teaching of personal hygiene. It is possible to make the industrial health department a new and strong arm of the public health department in bringing about conditions of health. Mortality statistics not now available may be secured, as well as organized assistance in the time of epidemics.

The physician who considers accident work or casualty surgery as a mere "pot boiler" over a period of financial stress will hardly prove ornamental to his profession. To meet the requirements of an up-to-date medical and service director he should be a man of good general education, capable of making elementary physical, psychologic and psychopathic observations. In addition to this he should be well grounded in the fundamentals of his profession. To meet the special demands of industrial medicine he should have a knowledge of preventive medicine, accident prevention and employment methods, including job analyses, a familiarity with race problems, a knowledge of industrial training, apprenticeship, continuation schools, the individual problems of women and children, of pensions and insurance, both group and social, and of plant organization likely to prove effective in helping him deal with problems of labor. He must have a knowledge of the hours of working in relation to fatigue and output, knowledge of shift systems, rest periods, regularity, and absenteeism. There should be a general knowledge of physical working conditions, safeguards, gases, dusts, good lighting and ventilating, with a very definite knowledge of housing, transportation, recreational and educational facilities. In short, he should be thoroly equipped for a health education work which with facilities and thought he may extend very effectively not only to the immediate group with whom he is working, but to a broader group, watching and hop-

ing for a more thoro and satisfactory development.

Secretary Mellon's Courageous Act.—

Few medical men will fail to approve Secretary Mellon's decision to delay no longer in issuing regulations permitting the prescribing of beer and malt preparations for the sick. Irrespective of the belief or disbelief individual physicians may have in the therapeutic value of beer as a tonic and reconstructive, the removal of restrictions against its prescription by qualified medical men will be welcomed by the great majority of the profession, as restoring in some degree the fundamental rights of the practitioner of medicine as a free moral agent in treating his patients. It is a well-known fact that a physician before he is allowed to engage in practice has to satisfy the duly constituted authorities in regard to his education, character, professional training and medical knowledge. This is a recognition of the grave responsibility that is placed on every physician by the state with the issuance of a license to practice medicine. In other words, it is as tho the state said "I have satisfied myself by the best means at my command that your reputation, education and knowledge of medicine, warrant me to give you the right to engage in medical practice. I, therefore, grant you this right, but remember, the acquisition of a right always means the assumption of responsibility, and when you are given the right to practice medicine, you undertake to do so honorably, to the best of your ability and judgment, and in conformity with the recognized principles of medicine and the laws of the State and Nation."

Thus the physician enters upon his labors possessed of rights he has been given and burdened with responsibilities and obligations he has assumed. It is impossible to enumerate all his obligations, but it may be said in brief that the physician today is a guardian of health, a fighter against disease and the trusted friend and adviser of the sick and suffering. Day in and day out he is obliged to struggle with the forces of disease, often to cope with the Grim Reaper himself. Can the physician be expected to discharge his full duty—to do his best, when limitations are placed on his judgment, and he is prevented from doing anything for his pa-

tients he may believe to be necessary or desirable? Let any medical man who may have a dear one seriously ill consider the question of treatment. He calls in the physician in whom he has the greatest confidence. The shadow of a long drawn-out convalescence, even death itself may hang over the sick one, and everything depends on the attending physician's treatment. Honest, capable and conscientious, is it right to place any restrictions on his judgment? Do you want your doctor—the colleague you trust—prohibited from doing anything he deems necessary for the comfort, relief of pain, or the restoration to health of *your* mother, wife or child? Considered in the abstract, restrictions on medical practice may mean little more than annoyance and inconvenience. But when these restrictions affect the welfare of a member of *our* family, and interfere with the service of the physician on whom *our* dearest hopes are placed, they take on an entirely different aspect; then they become sinister and dangerous.

But if these restrictions on medical practice are objectionable in one instance, are they not so in all?

We earnestly believe so, for the nature of a physician's obligations to his patients is such that absolute freedom in judgment and action is necessary to enable him to render his best service and discharge his full duty. Let the state take every care to determine his fitness to assume the responsibilities of a practitioner of medicine. But when the state has allowed him to undertake these responsibilities, in heaven's name let him be the sole arbiter of what he shall give to those who seek his aid and demand that he shall serve them to the best of his judgment and ability. If he fails to meet his responsibilities, or violates the laws of the land in any way, the state has ample ways and means of protecting itself, and the people, against him.

It is, therefore, because we see in Secretary Mellon's action in respect to the prescribing of beer, a little saner attitude toward the medical profession—which in the last analysis is 99.5 pure and honest—that we welcome the course he has taken. In other words, our approval is based not on any special regard for beer, but solely on our earnest desire to see medical men accorded their full rights and privileges as honorable, responsible practitioners of medicine.



ORIGINAL ARTICLES

EFFECTIVE MEASURES IN THE PROPHYLAXIS OF THE EARLY AND LATE TOXEMIAS OF PREG- NANCY.¹

BY

J. O. ARNOLD, M. D.,

Professor of Clinical Obstetrics, Temple Uni-
versity Medical School; Associate Obstetri-
cian, Samaritan Hospital,
Philadelphia, Pa.

About two weeks ago a friend of mine telephoned that he had a case of pernicious vomiting of pregnancy, that had been going on for several weeks, and was getting worse all the time, in spite of all he could do for her. He remarked that he had no doubt that I had *many* such cases, and that he would like to know what I do for them, as they are certainly "bad jobs" for the general practitioner. "This woman," he said, "is really in a desperate condition, but she does not want to lose her baby. I hate to have to empty her uterus, but I'm afraid there is nothing else to do. Can you take her into the hospital?"

My first answer was to correct the mistake this doctor made in assuming that I had *many such cases*. I replied that it might surprise him to know that in recent years, I have had very few cases of even moderately severe nausea and vomiting, and *none* that I would call pernicious vomit-

ing, in my own practice. I not infrequently see such cases in consultation and in my hospital service, but they seldom or never occur in patients under my own care. I am sorry to say that I have many patients who have gone thru from one to four months of this type of tortures and torments, before they engaged their obstetric attendant, and I usually say to them that such an experience, in my opinion, is wholly unnecessary, and could have been avoided if they had known the importance of consulting their doctor as soon as pregnancy is suspected, or at least at the first sign of "morning sickness."

The doctor replied, "Well, I wish you would tell *me* your secret." I tried to disabuse his mind of the misunderstanding that prompted this implied accusation, and in answer to his inquiry, said that I would be glad to arrange to have his patient admitted to the hospital, for I thought she was undoubtedly a case for hospital treatment, but I *assured* him it would *not* be necessary to empty the uterus. Incidentally, I may say, that within a few hours after the above conversation, this patient was admitted to the maternity ward of the Samaritan Hospital, where it was found that she was in the third month of pregnancy, and in very miserable condition, vomiting almost incessantly.

After thoroly washing out her stomach and lower bowel, our usual alkali-bromid

¹Read before the Second Councillor District Medical Society, Dayton, O., Sept. 19, 1921.

and glucose solution by bowel was *started*, and all food, drink, or treatment by mouth was *stopped*. Inside of 24 hours, vomiting had entirely ceased, and in less than a week the patient was eating heartily of the ordinary foods, and has since gone home feeling perfectly well, and perfectly happy that she still has her baby.

It is not my object in mentioning this incident to speak of this particular case or its treatment, for there was nothing unusual about either. My purpose is to call attention to the position of the family doctor in his relation to this question of the toxemia of pregnancy and, if possible, to say something in reply to this challenge, to "tell him my secret," that may prove of practical value to my friend and to the large class of physicians for whom he speaks.

I think I can safely say that the treatment, both prophylactic and curative, of this class of patients, *when under proper conditions*, is a far simpler and more satisfactory matter, than is the solution of the problems that confront the man who sees the majority of these cases first. The general practitioner is *still* the prevailing obstetrician. The conditions of society and time-honored custom still condemn him to "solitary confinement (no assistant) at hard labor" in homes entirely unsuited for a work fraught with such importance to the welfare of the community. In a large majority of cases, and under the conditions he must meet, it is absolutely impossible, in my opinion, for the family doctor to prevent or successfully treat the so-called pernicious vomiting of pregnancy, or for that matter, any of the other serious complications of pregnancy and labor; and yet our modern, highly enlightened civilization unhesitatingly compels him, in addition to all his other duties, to be the ever-present obstetrician in homes and under circumstances that make the par-

tial or complete failure of his best efforts, a foregone conclusion. In saying this, I mean no reflection on the general practitioner, for no specialist would undertake his task, or would succeed any better, perhaps, if he did. Herein is the explanation of the so-called "secret," and *this* the statement of one of the really *big obstetric problems* that the evolution of society and of the medical profession, must yet work out.

When a disease of such vital importance to the welfare of the race, as is the toxemia of pregnancy, can be comparatively easily cured, if not entirely prevented by the application of proper methods in institutions, or under proper conditions, then it is up to those who direct the course and progress of society, to hasten the day when living conditions are so improved, and suitable institutions so numerous, that the family physician, if he *must* do obstetric work, will no longer be obliged to undertake it under conditions less favorable than those demanded by the specialist.

No, I did not mean to mislead my friend into thinking there is any newly discovered or specific treatment for pernicious vomiting. I know of no secret remedy or cure, but I *do* believe we have reached the place where we can say to the very large majority of our patients, that the so-called "morning sickness" of pregnancy, of whatever degree of severity, is not a normal or physiologic condition that must be expected and endured, but a disorder of the system that is either wholly *preventable*, or reducible to a negligible minimum—*provided* we can see our patients and can control their manner of living, as soon as they suspect pregnancy or begin to experience this first evidence of toxemia.

The greater attention recently given to diet, and to teaching pregnant women *how to live* is one of the most vitally important

and most *hopeful* moves in modern obstetrics. No other means at our command promises so much for the comfort and safety of the pregnant woman, and for the prevention or control of toxemia. By clearly recognizing and forcefully stating the dangers of overeating, or of vicious or injudicious eating, and by carefully and systematically explaining to pregnant women just exactly how they may *avoid* these dangers, I know that I have been able in my own practice to very decidedly reduce the incident of toxemia, of both early and late pregnancy. I do not for a moment attempt to maintain that the cause of pernicious vomiting, for instance, or of eclampsia, is found primarily in the gastrointestinal tract, but the longer I practice obstetrics the more firmly am I convinced that in a very large percentage of cases, the *digestive tract* holds the balance of power, so to speak, in the struggle which is ever present in the pregnant woman, between the toxins of pregnancy (whatever they are) and the specific protective cell-ferments of her blood. Especially am I convinced that this is absolutely true of the late or so-called pre-eclamptic toxemia. Barring those comparatively few cases where organic disease is known to exist, if the intestinal canal can be kept normal and clean, without resorting to the very common and very pernicious use of purgatives (and I believe it can), then the natural protective forces will maintain the ascendancy and there will be little or no evidence of the presence of a toxemia. At least that is the way I feel about it after years of careful observation, and I feel it so *strongly* that I practically swear every woman who applies to me for attendance nowadays, to follow my instructions absolutely, or to discontinue my services. After explaining (and if need be, illustrating from case histories) the

very real dangers arising from bad eating, I am in the habit of holding up my hand in front of the patient, with thumb and fingers spread equally distant from each other, while I say to her:

(1) That her entire food allowance for the 24 hours is to be divided as nearly as possible into five equal portions (as represented by the fingers), one of which is to be taken every three hours until all are consumed; that no other food is to be taken *after* or *before* or *between* these meals, and that there is to be no "big meal," and especially not the usual evening dinner.

(2) That she may have a fairly liberal variety of foods as long as they are known to be nutritious and digestible, and that her drink is to be limited almost entirely to water and milk, the latter to constitute the basis of each of the five meals; five glasses of milk a day, with good bread and butter, some of the breakfast foods or cereals, with plenty of cream and sugar, properly cooked potatoes, green vegetables, such as lettuce, spinach, or celery—a moderate amount of good fruits, occasionally an egg, a small portion of fish, or even a small allowance of red meat two or three times a week—this in a general way comprises the instructions on diet.

(3) That as often as she eats, or five times a day, she is to take at least a half teaspoonful of bicarbonate of soda, or its equivalent in some other alkali, such as the milk of magnesia; that this alkali will be increased or decreased according to its effects on the reaction of the urine and the general condition of the patient. Of course, much more than this, and much that is different from this, must often be said to suit individual cases, for one must always feed and treat *individuals*, not merely conditions.

This is the *most practical* and *most effective* means I have ever found to prevent overeating. I am quite sure that more women come to grief from eating too much, than from eating too little, but this plan properly understood and followed, prevents both. No pregnant woman, in spite of her capricious appetite, is apt to eat a dangerously large dinner in three hours after partaking of a liberal lunch, and certainly none will suffer for *want* of food in that length of time. A meal of simple, nourishing foods, taken every three hours, will be *digested* and *used*, and the plan, therefore, can work no possible hardships to the body needs, even tho those needs *are* more in pregnancy, than at any other time. It *does*, however, run counter to long established customs that are hard to break, in some instances, and it calls for a degree of moral courage and self-sacrifice that is not possessed by every woman; but let me say it calls for *far less* courage and sacrifice than is *all too frequently* required, when these simple instructions are neglected.

A few brief case-reports may help to emphasize this point. Scarcely more than a month ago I had a patient whose case, I think, well illustrates how this matter of bad eating becomes a determining factor in the toxemia of pregnancy. A strong, hearty, young primipara—the kind I am always afraid of—had been under my care since the third month of gestation. I had seen her regularly once or twice a month, and carefully and repeatedly instructed her in the above outlined plan. Thruout the six months of my supervision her blood-pressure and urinalysis had been perfectly normal and there was every evidence that she was in splendid mental and physical condition up until within two weeks of her probable date of expectancy. Her family friends reported from time to time that she was adhering strictly to my instructions, and especially during my absence from the city they noted how she had even remarked that she was going to be extra careful and take no chances on overeating while her

doctor was out of town. I saw her on August 1st. There was no discoverable evidence of toxemia at that time. On August 13th, her husband reported that she had been suddenly seized with a most violent attack of painful diarrhea and vomiting. Labor followed in a few hours and under light chloroform anesthesia she was easily delivered of a strong, healthy child. Her condition following labor, while not good, because of her continued gastrointestinal disturbances, was fairly satisfactory for about three hours, when she began to have typical eclamptic convulsions. These continued at irregular intervals for the next 36 hours. She never regained consciousness after the first convulsion, and died on the third day after delivery.

On the day following delivery, she vomited portions of beef-stew and coarse vegetables, which the husband, who was present at the time, declared that to his certain knowledge, she had eaten at the evening meal three days before. Granting the possibility, and even the probability that this patient developed a dangerous toxemia from her pregnancy in the twelve days' interval since I last saw her, I *still* believe that the determining factor in her fatal illness was overeating, which from a history obtained later, had been indulged in for about a week prior to its culmination in the large evening meal of indigestible foods, that undoubtedly killed her. Influenced by some well-meaning, but misguided friends who thought she was being unnecessarily starved, this patient deliberately and with the full knowledge of its possible consequences, departed from the instruction that had hitherto carried her so safely and satisfactorily, and she paid the extreme penalty for her disobedience.

Some time before this, another strong robust primipara of 19 years was brought to the hospital in convulsions, with the statement from her family doctor that she had been regularly under his care for months and that she had been unusually well, until a few hours before, when she had her first convulsion. She was within two or three weeks of term, with no signs of labor, and having severe convulsions at half hour intervals. I decided to deliver her at once by Cesarean section, which was followed by complete recovery of mother and baby. Happening to meet the father of this girl a few days after her seizure, I inquired as to

her previous health. The father replied that she had never had a sick day in her whole pregnancy, and was always a very hearty eater. Just to show how perfectly well she *was*, he told how she had attended his birthday party the night before she was taken sick, and had been able to eat *more ice cream and cake* than any one else in the party!

Those of you who do much obstetric work, have no doubt often observed, what our hospital records clearly show, that twice a year we have a decided increase in both the *number* and *severity* of our eclampsia cases. First, at the midwinter holiday season, and again in the midsummer vacation season. At both of these periods the pernicious practice of overeating, or injudicious eating, is indulged in by pregnant women, as well as by everybody else, and the inevitable result is a greatly increased morbidity, if not an increased mortality.

I recall having had four cases of grave, or pre-eclamptic toxemia under my care at one time, immediately after the last Christmas holiday, every one of whom gave the significant history of having been perfectly good until her return from a yuletide visit among indulgent friends. The same condition has often been observed in July. It has not infrequently been my experience to have a patient return from two or three weeks at the seashore or country, for instance, so dangerously toxic that it required the utmost effort to prevent disaster and this, too, in spite of my most emphatic warnings of the dangers of such a visit.

I remember one patient who "laughed me to scorn" when I ventured to suggest that the greatest danger in her proposed visit to the shore was the danger of overeating. She was so perfectly strong and well that it was absurd to suppose she could harm herself by eating good food. Upon her return to the city, three weeks later, I found her blood-pressure, which had been normal when she left, to be so far above the *danger line*, that I advised her to go at once to the hospital for treatment. She did not go until two days later, when she was taken there in an ambulance after she began to have convulsions. She recovered, but only after a long, serious illness, which, in my opinion, would have been wholly avoided, had she been content to continue on the simple, restricted diet that had been prescribed for her.

It is needless, I am sure, to give further illustrations of this point. The experience of every obstetrician would furnish many similar cases. But, fortunately, there is *another* side to the question, and we must not lose sight of that. Such cases as I have just mentioned are, after all, somewhat exceptional. *All* pregnant women are not so fickle, indifferent, disobedient, or easily influenced by meddling friends. I am very glad to believe that by far the greater number of women who engage a physician to care for them in pregnancy and confinement, are perfectly willing and anxious to follow his instructions, if he will but take time and interest enough to give them definite and intelligent instructions to *follow*.

The type of cases I have just cited furnishes only *negative* evidence of the very great value of proper living in pregnancy. The *positive* and far more *valuable* testimony comes from the hundreds of patients who escape toxemia altogether, or who are promptly relieved of its annoyances and dangers by strict adherence to some such plan as I have here outlined. I do not now recall, among my patients in recent years, a single case of eclampsia, or a case of long continued or persistent vomiting, where my instructions on how to eat, and how to care for the digestive tract, were honestly and thoughtfully followed, and where enough bicarbonate of soda was added to the daily diet to maintain a slight alkalinity of the urine.

If then, those who follow a definite program of how and what to eat, show comparatively *few* manifestations of toxemia, while those who do *not* follow such a program are frequently its victims, it seems to me that as physicians we have a plain duty in the matter, and I have tried to suggest a

plain course to follow in the *pursuit* of that duty.

In conclusion, I wish to reiterate the fact that we shall never be able, as physicians, to do our best, or our full obstetric duty to the child-bearing women of the land, until every community has been provided with the necessary institutions for such work; but that in the meantime we can do much to prevent the *early* toxemia of pregnancy, by spreading abroad the propaganda, so to speak, which urges upon every prospective mother the very great importance of *early attention* in pregnancy, and which is calculated to disabuse her mind of the age-old fallacy that nausea and vomiting, or any *other* disturbance of health is to be expected and endured simply because she is pregnant; and *finally* that whatever may be the origin or cause of the *late* toxemia of pregnancy; and whatever else we may do to *prevent* or *relieve* it, the most effective measures that we can place in the hands of our patients at the present time, are *clearly stated, definite and practical instructions* on how, and when, and what to eat and drink.

4149 North Broad Street.

You'll Win.

If you'll sing a song as you go along,
In the face of the real or fancied wrong,
In spite of the doubt if you'll fight it out,
And show a heart that is brave and stout;
If you'll laugh at the jeers and refuse the
tears,

You'll force the ever-reluctant cheers
That the world denies when a coward cries,
To give to the man who bravely tries,
And you'll win success with a little song—
If you'll sing the song as you go along!

—ROBERT McCLAIN FIELDS.

A CAMPAIGN OF PUBLIC EDUCATION IN THE INTERESTS OF THE DISABLED SOLDIER.

BY

DOUGLAS C. McMURTRIE,

New York City.

Secretary, Institute for Crippled and Disabled Men; President, Federation of Associations for Cripples; Editor, *American Journal of Care for Cripples*.

One of the chief obstacles to the complete success of European provision for the re-education of war cripples has been the lack of intelligent interest in the work on the part of the public. The importance of a thoro campaign of publicity in connection with a system of re-education has not been realized fully by any of our Allies, and as a result, many a disabled soldier has neglected to take advantage of the opportunities offered him to learn a new trade and thus increase his chances for a good future.

The fault does not lie with the public; there is always ready sympathy for the cripple and a willingness on the part of the public to help him. But that "help" is more often a hindrance, simply because the public does not understand the benefits of re-education, nor does it take readily to innovation. Witness the dropping of a coin into the one-legged beggar's cup on the highway; behold the "patriotic" citizen offering the cripple soldier a drink; or the kind society lady taking the hero out of the hospital to attend a "tea" in his honor. All well-intentioned actions, but not one that offers constructive assistance to the man who is on the threshold of a second battle with life.

There is only one way to "educate the public"—by having one's own object clearly in mind and then, by repeated and energetic efforts, to place it before the people graphically and forcefully.

The first campaign of public education in the interests of the disabled American soldier was launched by an unofficial agency, the Red Cross Institute for Crippled and Disabled Men, one year before Congress passed a law delegating to a government department the responsibility of re-educating American war cripples. Active in this movement were men and women who had made a careful study of the problem of the cripple long before America entered the war, and who were equipped to strike out boldly when the right time came. These leaders in the field saw the futility of waiting until the first casualty lists were posted or until the disabled men were returned to our shores, and as early as May, 1917, began to advocate "A Square Deal for the Crippled Soldier." A pamphlet bearing this title was widely distributed by public utility corporations, department stores, etc., and over a million persons were reached directly with the message that, briefly stated, was "Give the crippled soldier a chance—not charity."

There followed quickly in the wake of this circular a second folder entitled, "Your Duty to the War Cripple," of which six millions were distributed. These folders were reprinted by the press, used in the form of advertisements, and received editorial comment. They marked the first milestone of the journey, the first message to the people of the United States that a cripple was not to be regarded as an object of charity or as a hopeless dependent upon the community.

Simultaneously, there appeared a pamphlet entitled, "Reconstructing the Crippled Soldier," which gave the philosophy of the subject, the result of European experience, and the technic required to return effectively a disabled man to civil life. This

booklet, with illustrations of war cripples at work in the European schools, created wide public interest. There was issued also an article, "The Duty of the Employer in the Reconstruction of the Crippled Soldier" by the present writer, which was sent to all the chambers of commerce of the United States, the prominent individuals and to the leading trade journals of the country, with requests that they publish it. The response was splendid, and several hundred journals used the article in full, some with editorial comment, and some requesting additional articles on the subject as related to their special trades. This article aroused the interest of employers who wanted to know where disabled men could be obtained to fill jobs in their factories. It was the first time in the history of the country that the cripple was regarded as a prospective workman.

From these early intensive efforts, the campaign of public education grew by leaps and bounds. The Red Cross Institute, acting as an experiment station in the field and a clearing house for information on the cripple, established a school where cripples were trained in six trades, a library, an employment bureau, a research department, and a department of industrial surveys. It was the only special training school for cripples in the United States, and interest very naturally centered about its activities.

A series of scientific publications came into being, these treating of the work done in European countries, of the technic of re-education and placement, and kindred subjects. These publications were similar to articles published in a magazine issued prior to the war, entitled the *American Journal of Care for Cripples*.

Very early in the campaign, as special news service for the daily press was in-

augurated, and informative articles, not publicity stories, were submitted for publication. It was found that America was interested in what was being done in reconstruction abroad, for she, too, has had to face similar problems. The first story told of the reconstruction of disabled peasants in Italy; the second described the efforts of the Belgians in restoring their expatriated soldiers to self-support; the third article recounted the work of the re-educational school at Düsseldorf, Germany, while a fourth described the pioneer efforts of France in providing facilities for the reconstruction of her crippled *poilus*.

A related activity in public education has consisted in writing "letters to the editor," purposed for publication in the daily press thruout the country. These letters aim to stimulate people to think about the subject of rehabilitation and to adopt a constructive attitude toward the returned disabled soldier.

To meet the heavy demand made upon it for articles, the department of public education sought the cooperation of a number of prominent writers, who were found most willing to volunteer their services. Several "writers' meetings" to discuss the scope of the cripple problem have been productive of excellent results.

For magazines, trade journals, and other periodicals that print illustrated articles, photographs were supplied showing disabled men at work in a variety of occupations in Canada, France, England, Italy, Germany, India, and the United States.

An effective agent in the publicity campaign is the spoken word. To carry a direct appeal to the people, a public speaking service was instituted. Officers of the Institute have accepted engagements nationally, to speak before conventions, associa-

tions, chambers of commerce, etc., on various phases of the subject. Local speaking engagements, before Red Cross Chapters, meetings of school teachers and so forth, are being filled continually by members of the Institute staff. These talks are almost always illustrated by slides and motion picture films, which have been found most effective and convincing proofs that the disabled man can overcome his physical disabilities if he is given the chance, and can take his place in the industrial and social world on an equal footing with the able-bodied workman.

Another valuable method of bringing the message home to the people is the "traveling exhibit," which consists of large posters on which are printed enlarged photographs of cripples at work and suitable captions. These "exhibits" consist of a set of 18 panels, and are readily rolled up and posted in a mailing tube. They are effective for important conferences and conventions.

There were also issued posters bearing the title, "Facts of Interest to the Disabled Soldier and Sailor," which told very briefly the provisions that the government agencies had made for taking care of the disabled man from the time he entered the hospital to the time that he was placed in profitable employment. The poster contained a complete statement of the advantages that were open to every disabled soldier. Copies of this poster were sent to the leading libraries in the United States with the request that they post them on their bulletin boards, and that they ask local newspapers to give publicity to the material. Ready support was received from the libraries and also from the newspapers in this phase of the campaign of public education.

To bring home the message of the disabled soldier to the millions of foreign-

born people resident in America, an effort was made to interest the foreign language newspapers thruout the country, with requests for publication of booklets printed in their own language and entitled, "Making Disabled Men into Skilled and Able Workmen." The response from the foreign language press has been most gratifying. To date, articles have been published in the French, German, Italian, Spanish, Yiddish, Hungarian, Danish, Norwegian, Greek and Polish newspapers.

Later on, the Institute was successful in interesting news and photographic syndicates in using material of national consequence. Thus, hundreds of newspapers thruout the country were supplied with stories or photographs.

Another publication that stimulated considerable interest in the disabled man, among the general reading public, was *Carry On*, edited by the Office of the Surgeon-General of the U. S. Army, and published by the American Red Cross. Prominent men and women were invited to contribute to its columns, while leading poster artists and cartoonists brightened its pages with original appropriate illustrations. Flipping rapidly over the table of contents of the early issues of *Carry On*, one encounters the names of Woodrow Wilson, Theodore Roosevelt, and Charles M. Schwab.

A comprehensive campaign of public education was later launched by the Federal Board of Vocational Education, the government department charged by law with the responsibility of restoring disabled soldiers to self-support. The official organ of this agency is the *Vocational Summary*, a monthly journal that gives an account of its activities. The Board conducts a department of news service and issues "rehabilita-

tion leaflets," "opportunity monographs" to the men on board ship and in the hospitals. These are popular in character, of course, and some of them bear the titles, "Hey there, Buddy," "What can you do for the Disabled Soldier and Sailor?" "Overseas and back to Civil Life," "To the Sweethearts, Sisters, Wives and Mothers of Discharged Soldiers and Sailors," "President Wilson's Message on Healing the Hurts of our Wounded," "To the Disabled Officer," "What the Employers of America can do for the Disabled Soldiers and Sailors," "To the Household of the Disabled Soldier and Sailor," "To the Disabled Soldier and Sailor in the Hospital," and a number of monographs prepared by the Federal Board and issued in cooperation with the Office of the Surgeon-General, War Department, and the Bureau of Medicine and Surgery, Navy Department, which tell of the opportunities for disabled soldiers in the lumber industry, electrical work, automobile mechanics, forestry, factory woodworking trades, metal trades, journalism, medicine, and other lines of endeavor.

As the result of an investigation into the activities in public education conducted by the European belligerents, it has been found that publicity has not been used to the greatest possible extent as an adjunct to their system of re-education. In Great Britain, especially, has the lack of public interest in re-education been deplored by persons engaged in the work. Only a small fraction of the men who could profit by re-training have taken advantage of the opportunity, and the reason for this is generally conceded to be the ignorance and apathy of the public. During the first two and one-half years of war, there was practically nothing done in the way of propaganda. In 1917, Major Robert Mitchell

of the Ministry of Pensions issued a little booklet entitled, "To the Disabled Soldier and Sailor," containing a simple direct statement in conversational style telling of the advantage of retraining and assuring the man that his pension would not be reduced because of his increased earning capacity after training. This booklet also contained letters written by ex-soldiers who had profited as a result of re-education. The *War Pensions Gazette* was started in May, 1917, by the Pensions Office to circulate information and to provide a medium for the exchange of ideas on aid to soldiers. It announced all official instructions issued during the month, commented on new regulations, and published short special articles relating to the field. It was addressed especially to the Local Pensions Committees and to specialists in the work.

There was started in 1917, by Lord Charnwood, a quarterly entitled, *Recalled to Life*, which was a semi-scientific magazine on rehabilitation. In 1918, the editorship of this paper was taken over by John Galsworthy and the name was changed to *Reveille*. It was judged by critics that *Reveille* was neither scientific nor popular and therefore failed of its purpose. *Reveille* enlisted the cooperation of leading literary men and a single glance at its title page would be a sufficient guaranty that the material contained in the volume was worthy of attention.

A live-wire weekly which minced no words was *The Ex-Service Man*, a little paper printed by ex-service men for ex-service men. "What are you doing for us who sacrificed limb and health for you?" was the constant refrain in its pages. This paper aimed to secure better treatment for the ex-service men, "let the chips fall where they will." Much publicity has emanated

from St. Dunstan's Hostel for Blinded Soldiers, and good results have been achieved by the vigorous leadership of Sir Arthur Pearson. More recently, posters, lectures, and motion picture films have been prepared by the Ministry of Pensions. One film on re-education is said to have been exhibited to over four million people. Mr. Hodge, the former Minister of Pensions, made a lecture tour thruout the Kingdom speaking in the interest of disabled soldiers. An exhibit of appliances, tools, and photographs prepared for the Inter-allied Conference in London, May, 1918, was circulated in all the principal cities and is said to have attracted much attention.

Despite the early efforts of France to provide for her war cripples, it was found upon investigation in 1916 that only a small number of men who wanted to take retraining were actually taking it. The national office decided that additional propaganda was necessary, and accordingly it prepared a notice addressed to wounded soldiers which was sent to all departmental committees, re-education schools and to the institutions dealing with the disabled. Illustrated lectures and motion pictures have been used to some extent by the French Government, and there has been an effort made by the American Red Cross in France to awaken the returned soldier to the need of re-education. Every soldier on his discharge from the army received from the Ministry of the Interior a booklet telling him of the re-educational opportunities open to him, and urging him to take advantage of them. Included in the booklet was a list of the training schools, the trades taught, the length of apprenticeship required, and the prospective wages. Precise directions were given as to the steps a man should take to secure admission to any de

sired course. There was also given to soldiers on their discharge a booklet issued by the Ministry of War which contained information on their rights and privileges with regard to artificial limbs and re-education.

The Permanent Inter-Allied Conference, born of the first Inter-Allied Conference, published the *Revue Inter-Alliée pour l'Etude des Questions intéressant les Mutilés de la Guerre*. This was addressed not to the soldiers but to the educated public and was a scientific rather than a popular magazine. In addition to special articles on different phases of the rehabilitation problem, the *Revue* published an account of current measures for the disabled taken in the different countries, and reviewed books and periodicals dealing with the problem.

Another creation of the Permanent Committee was a permanent public exhibition of appliances and tools for the disabled.

The *Journal des Mutilés et Réformés et les Victimes de la Guerre*, is a weekly newspaper published by and for discharged and disabled soldiers. It has published descriptions and announcements of various schools and courses, but its main interest is in securing the rights of the *mutilés* in respect to pensions, prosthetic appliances, reserved positions and favorable treatment from the government and the public. It presents the claims of the *mutilés* in a striking and fearless fashion. Certain other newspapers, notably *La Vérité* of Paris, runs a half column in the interests of the disabled soldier. This column is usually taken up with complaint about the treatment accorded.

The associations of discharged soldiers have banded together in a National Federation which is conducting a campaign for what they call their rights.

In Italy also, the need for publicity has only been partially met. The National Federation of Committees for Assistance to Disabled Soldiers has done a great deal thru its money-raising schemes to advertise the work of the Committees. A great many post cards have been printed for sale. But the largest returns have come from the sale of boxes of matches decorated with the Italian colors. A campaign of publicity made it a public duty to buy matches in this form, and the boxes have been sold by thousands, carrying with them a widespread knowledge of the name of the Federation, if not of the work.

The real work of publicity done by the Federation is the publication of a monthly magazine, the *Bolletino della Federazione Nazionale dei Comitati di Assistenza ai Militari Ciechi, Storpi, Mutilati*. The *Bolletino* publishes special articles, reports of the local committees, and lists of positions open to cripples. It has done a great deal to inform interested persons about the work being done for disabled soldiers, but has probably made no great popular appeal.

In order to make clear to disabled soldiers what the Italian government offers them in re-education, pensions, artificial limbs, employment opportunities, and so forth, the National Board (the government body charged by law with the protection and assistance of disabled soldiers) had published a booklet setting forth the essential facts in a clear and concise form. The booklet is illustrated with photographs showing cripples at work with the aid of artificial limbs and other appliances. It has been distributed by hundreds of thousands not only directly to disabled soldiers but to civil and military physicians, nurses, priests, teachers, and all who come in contact with the wounded.

The National Board has proposed that a short exposition of functional and vocational re-education be included in all official courses for medical students and nurses. It has also prepared moving pictures which it has shown in different cities.

Some of the local committees have undertaken publicity work. The Piedmontese Committee of Turin has issued posters urging men to attend their farm school and a booklet for cripples telling the story of re-education. (*Tre Anni Dopo*, Turin, 1916). It has also sent representatives thru the province to lecture and interest local people.

The Italian Red Cross has included in its nursing course lectures on re-education, and instructed its representatives whenever they talk with soldiers in hospitals to inform them of the possibility of re-education.

The most effective bit of propaganda among the soldier, however, is undoubtedly the provision of the re-educational law which makes a two-weeks' stay at a school obligatory for all wounded soldiers unable to resume their former occupation.

The complete success of any big undertaking in America depends upon the hearty cooperation and support of the general public. A campaign of publicity is necessary to bring to the attention of the public any new project. This fact was realized very early by those who advocated the question of the crippled soldier, and it is small wonder that they used every means at their command to bring home their message to every person concerned.

Bright's Disease.—In Bright's disease and diabetes warm baths, by keeping the pores thoroly open and thereby relieving the work of elimination done by the kidneys, are almost indispensable.—*Medical Summary*.

CORRECTING HUMP NOSE WITHOUT SCAR.

BY

IRVING WILSON VOORHEES, M. S., M. D.,

Assistant Surgeon, Manhattan Eye, Ear and Throat Hospital,

New York City.

Altho it has for many years been left in the hands of quacks, who undoubtedly did much harm by irresponsible and crude methods, correction of nasal deformities is now coming into its own and the full-fledged rhinologist must of necessity be able to do this work. Instead of attempting to describe all deformities of the nose with the various methods used in their correction, I shall here briefly consider "hump nose" only, and set down the technic which has been most satisfactory in my hands.

Many people worry over the appearance of the nose even to the point where they exaggerate every line and curve which are practically invisible to friends and acquaintances. No one in this frame of mind is a social success, and it probably leads to a mental state where nothing matters and a valuable life is thrown away. This is especially true of women whose mental reactions against personal shortcomings are so much livelier than in men.

The case here reported is representative of ten which I have done. Most of them have been women who have been obliged to go out into the world and earn a living under conditions which made them unusually sensitive to this imperfection and prevented them in many instances from advancing in position and salary. This is particularly true of actresses, who depend very often more upon "looks" than histrionic talent for success in their work.

Miss B. was referred by Dr. N. Philip

Norman, of this city, for my opinion as to the possibility of improving her appearance by the reduction of a bad nasal hump. She had already visited an advertising "nose factory" where she was promised a cure if she could raise \$1,000, but, this being impossible, her hopes were dashed to earth for the time being at least. There was a history of trauma suffered some ten years

of keeping her under without recourse to continuous anesthesia during the operative work. An incision was made within the left nostril at the junction of the wing of the nose with the nasal process of the superior maxilla. A sharp elevator used in submucous work was introduced to start the elevation over the bone, followed by dull elevation, care being taken, of course,



FIG. 1. Miss B. Note the large hump and depression below it caused, probably, by retraction of scar tissue following an extensive resection of the septum.



FIG. 2. Miss B. Appearance after subcutaneous removal of hump and elevation of depression by transplanting a small piece of bone from the hump area.

ago with resultant nasal insufficiency, due probably to a deflected septum. In any case, she had undergone a submucous resection of the nasal partition which was so thoroly done that there was left a considerable depression below the hump at the junction of bone and cartilage. Our problem, therefore, was to remove the hump and build up the depression. This was carried out in her case as an office procedure, altho my preference was that she take a bed in the hospital. Ether was administered by Dr. Haiman until the patient was well anesthetized because of the desirability

not to "buttonhole" the skin. The hump was thoroly freed of all overlying tissue until bare bone could be felt in every direction. An ordinary nasal saw with the heel so protected with cotton that no wound would be made in the vestibule, and with two fingers held firmly at the inner canthus of both eyes so that there could be no injury to any tissue above the hump line, the projection was slowly sawn off. The piece was removed with ordinary grasping forceps, and the base smoothed down with spokeshave and rasp. A small piece of the bone which had been removed was pushed

down into the depression until one was sure that the middle line was perfectly straight. Blood clots and débris were curetted and massaged out of the wound so that there might be no possible fibrous organization, which could so well spoil our result. Nothing further was done. No suturing or packing, but the patient was advised after lying around for an hour to go home to bed and apply cold compresses to the entire external nose. She said that she had no post-operative pain nor headache, in fact, no uncomfortable reaction of any kind which is quite the rule in the majority of cases. There was, to be sure, discoloration of the skin to an almost lemon yellow, and swelling of moderate degree, but this had all passed off within a week and she is very happy over the outcome.

A similar subcutaneous operation has been done by other plastic surgeons, but there are certain differences in technic and I wish merely to emphasize that this is an extremely simple operation with practically no risk and could be done under local anesthesia in a tolerant patient. There seems to be no need to undergo the expense of hospital care if one has an office operating room where minor surgical work can be carried out aseptically. This is a desideratum, as many of these patients have little money. Absence from work for one week seems ample and, therefore, the economic loss is small.

114 E. 54th St.

Rudyard Kipling's Motto.

"I keep six honest, serving men;
They taught me all I know.
Their names are What, and Why, and
When,
And How, and Where and Who."

THE DIAGNOSIS, DISEASES, AND THERAPEUTICS OF AMETROPIA.

BY

GEORGE M. GOULD, M. D.,
Atlantic City, N. J.

(Continued from September issue.)

Warning Against All Eye-Glasses.—It goes without saying that the objects of eye-glasses and spectacles are to cancel ametropia, and thus to increase or sharpen vision, to lessen, prevent, or cure eyestrain, and to avoid the ocular and systemic diseases caused by ametropia, presbyopia, etc. And yet it seems true that nearly all of the eye-glasses and many spectacles that we see in actual use on the noses of people, big or little, are often injuring their eyes and general health. In view of the fact that many of such glasses have been ordered by oculists and opticians, this may at first seem to be a decided exaggeration. But not so! Because all of us know that, warn, urge, advise, and repeat, however frequently and earnestly we may, to keep the lenses in proper position and perfectly polished, however illustrated with handkerchief or lens-cloth—it will usually go for naught. However frequently and emphatically the urging, they may return to report "glasses of no use," "can't wear them," etc. If one asks for an illustration of how they do it, such patients may use the bare fingers, or a dirty or dusty handkerchief. Few can understand that the lenses are smudged by the slightest touch against the lashes or lids in putting them on. The "Xylonite" and other styles of big round lenses now in stupidity-fashion, moreover, strike the cheeks, nose and eyebrows, and are at once smeared with sweat and vapor. There is no limit to the rage for the wrong ways and tools to treat eyestrain. Still another bad way is to rub the lenses so hard that they

are made semi-opaque by a thousand scratches which destroy transparency. If we fail to get at least one way successively practiced we fail in duty to the patient's vision and health. And foggy, moisture-laden atmosphere, in factories, homes, and sometimes out-of-doors, will at times make the job still more difficult.

One rule should, therefore, be unexceptional: Abolish eye-glasses and order only spectacles. All useful lenses have optical centers, and it is only by means of the temple-pieces of spectacles, curved behind the ears, that accurate and constant adjustments are possible. If we lose our patient, let him (or her) go with goodly warnings, repetitive and explanatory, begging at least that eye-glasses shall be used only for distance, company, party, and going-to-Meeting occasions. Vanity and migraine are old friends, and vanity decreases—sometimes—with age, and surely with years and suffering long and well combined.

The extent of the morbid, popular mania for ill-fitting eye-glasses may be judged, as I have said, by the examination of the photographs of those in the public eye reproduced in the Sunday supplements of the newspapers. But, also, be it dared, in some of the advertising catalogs of manufacturing opticians, and eyes-examined-free "optometricians," "opticians," etc. It would seem evident, even to a blacksmith, that something is decidedly wrong, and as worn and pictured the eye-glasses must be harmful, not helpful tools to the wearers. To oculists who know about astigmatism, and their rôle of ill if the axes are misplaced, there is no doubt about the matter. The worst of the fashions is that of the sillies, who dangle a long black ribbon from one side of their eye-glasses, which displaces the axes of the astigmatism of the lenses from 20 to 30 degrees, according to several

quickly changing conditions, the movements of the head, the weight of ribbon, the slipping of the springs, etc.—an optical farce!

The nasal triangle upon which the eye-glasses are clamped causes a change of the lenticular axes according to the weight of the eye-glasses, the moisture of the skin, the motions of the head, the shape of the nasal bridge, the drag of the cord, and other conditions, so that the displaced axes of the lenses are constantly changed. The whole affair thus becomes a tragical farce, so far as physiologic optics and the relief of eye-strain are concerned. The patient pays for the wretched tools which often increase his suffering and inefficiency. It is neither good business, good medicine, nor good morals. The prescription or sale of such tools should be adjudged as malpractice and subject to heavy penalty.

Some patients pinch a roll of skin above the bone, causing a wobbling of the lenses with every movement of the head or eyes, and there ensues a jerking and dancing of the image, imperfect images, and amblyopia, according to the manifold tasks demanded, the conditions of illumination, the size and placing of the object, etc. The demand of the eyes and brain is, therefore, for spectacles, only and always, where eyestrain exists. At least in the great majority of cases we should tell patients that if they will not wear spectacles for the constant daily work we cannot in future continue to prescribe. There are plenty of others who will gladly receive them as patients. It is usually less harmful to wear no glasses than to wear those that do not correct the ametropia. An astigmatic axis misplaced is worse than no correction whatever of the astigmatism. As worn, eye-glasses almost always decidedly change the axes as determined by the conscientious oculist and his scientific trial-frame.

The Ocular Diseases Caused By Ametropia.—Every year of the 32 that I have been in practice my conviction has been deepened that ametropia is greater than all other causes, direct or secondary, of ocular diseases. In those early years my teachers were slitting up and cutting down, and reaming out the canaliculi of the pitifully innocent nasal ducts for the cure or worsening of epiphora, by jamming probes into them with great force and dire results. One of the great leaders in ophthalmologic surgery advised probes so large that they could not be driven down the ducts of any fleshless, dried, museum skull. For a number of years I had patients come to me with tears constantly dripping out upon the cheek an inch from the neighborhood of the nasal duct. The tears had to be wiped away every few seconds. The probes had missed the road badly!

Eversion of the lower lids I have found usually curable without surgery. I judge that a deal of what used to be called trachoma, and much treated and operated upon, was due to eyestrain. Except when (rarely) caused by specific infection, I think the following ocular diseases are almost always caused by ametropia: Blepharitis, styes, conjunctivitis, pterygium, all heterophorias, strabismus, epiphora, iritis, keratitis, retinitis and, surely, cataract. Neutralize perfectly the ametropia, early, and late, and often, and these diseases do not appear, except in rare traumatic and toxic cases.

Systemic Diseases Caused By Eyestrain.—I have never seen a pair of emmetropic eyes. And yet we must agree that the vast majority of modern callings and work cannot be carried on without resultant harm to the eyes themselves, or to the bodily organs. Farmers, lumbermen, hunters and some others with their attention habitually

directed to distant objects may get on fairly well, but such folk nowadays usually read more or less, and if at night, with poor illumination. It is only the blind who do not have headaches, Ménière's disease, migraine, etc. In our country there has been a thoroughgoing reformation and making hygienic the conditions of the factories of the entire United States. Especial attention has been given to the cure of those work-people who come down with the common ocular ailments. With all the rest-rooms and medical treatment it is confessed by Miss Ida Tarbell, in her illuminating "New Ideals in Business," that the cures do not cure except for a short time; then the illnesses return, and so *ad infinitum*. The illnesses are always precisely those that bring the oculist his clientele, and that, if the oculist is worth anything, he cures at once, and for a year or two, permanently. The Government Report of the Royal Commission of Canada concerning the health of the telephone girls brings us up standing with pity at their hurt eyes and ruined health. The telephone operators, of course, are subjected to horrible eyestrain by the nature of their work. Listen to what the physicians tell of the eyestrain of these girls, and of its quick destruction of life.

The intolerable fact seen on every page of the United States Report is that not the slightest hint is given that the two or three short years of telephone labor possible to the girls, and nine-tenths of all their awful suffering and wrecking, is largely due to constant near-range eye work without scientific spectacles. Many of the girls, of course, change occupations, and for many reasons; often, doubtless, because of the difficulties of keeping health. At all events no blame whatsoever attaches to the companies. The fault is the general indifference to or ignorance of the nature and con-

sequences of eyestrain. The English Report says: The Committee found that 142 out of 248 operators examined had had their health impaired by the "nerve and physical strain." "On a busy morning there is hysteria as the girls get worked up," and the words "shivering and panting," "sobbing and crying" are used. "One girl fainted four or five times running." Another said, "Glow-lamps are very trying to our eyes." "Dr. H. said that telegraphy got into my body (nervous storms), I used to twitch close." "Miss —— was on sick leave for three weeks from neuritis." "Switchboards are so close, great strain to eyes," testifies an operator; "Eczema of arm and abscess of ear"—such are some of the items noted. The average annual sick-leave absences (London, Manchester and Liverpool) steadily grow threefold in ten years. In one year the diseases listed in the sick-room patients attended to were these, and in the following order: "Faintness, headache, indisposition, biliousness, hysteria, neuralgia, colds, miscellaneous." The number of patients in the year taken by months, March to March, was, respectively, 51, 106, 91, 103, 121, 146, 108, 107, 153, 140, 171, 138, 97—a total of 1,532. It is found that, generally speaking, the strain upon telephonists are "nervous affections, digestive disorders, anemia, nervousness, neurasthenia, nervous disorders, nervous debility, migraine, headaches, vertigo, palpitation, etc."—precisely those demonstrated to be due to eyestrain.

The report of the Royal Commission of Canada is somewhat more enlightening because physicians from the University of Toronto were called to give their testimony as to the illness resulting from telephone-operating. These gentlemen testify that the following facts, conditions, or diseases exist—I quote their words:

Reaching upward injuriously affects the nervous system.

Nervous debility.

Faces showed indications of weakness on account of strenuous employment.

Eye, ear and throat all strained.

Nervous hysteria.

Constitution and nervous system injured.

Wearing down of the nervous system.

Optic and auditory nerves strained.

Debilitating to the nervous system.

Girls burn up more energy than they produce.

Most exhausting of all occupations.

Injurious to eyesight.

Produces headache looking at the holes.

Prevents rest.

Cannot sleep when they go home.

Couldn't eat well.

Reaching is hard and injurious.

Eye-troubles, headaches and nervous troubles.

Affects the eyes, and thru the eyes the general system.

The most trying of occupations.

Throat, chest and nervous troubles and headaches.

Nervous prostration and nervous breakdown.

After three years unable to perform the ordinary occupations of womanhood satisfactorily.

Fainting.

Strain on nervous system thru eye and ear.

Nerve-fagged.

Nervous exhaustion.

Strain upon the optic nerve and the muscles of the eye.

Difficulty in fitting the plug in: they seemed to scrutinize it closely.

Not so much physical as mental and nervous, and exhaustion of nervous energy, a depletion of nervous force.

The reason for such marked increase in insanity and nervous prostration all over the country.

After five years she would be disqualified to become a wife and mother.

On future generations the effect will be epilepsy and all sorts of nervous diseases.

Migraine.—The most invariably certain of the systemic diseases caused by near work with ametropic eyes is the symptom-complex variously named, from old Greece to

now, hemicrania, migraine, headache, biliousness, the megrims, sick-headache, Ménière's disease, nervous attack, the pukes, indigestion, nervous breakdown, neurasthenia, stomach-trouble and a dozen or two other terms equally philologic, etiologic, or pathologic—substructure or superstructure. It is my duty to say that in my unhumble opinion their single pathogenetic factor is ametropia. I plainly tell every patient complaining of this disease, or those diseases, causing more illness than all others, that these troubles are always caused by lack of scientific spectacles. The logical inferences draw themselves so that they do not depend upon doctor or patient. Not seldom the sick-headache complex disappears but only because the danger signal pain has melted into other forms of disease, chronic and organic, and the stage of curability has passed forever. The *decesus aeterni* is then, indeed, facile.

Neuritis.—"Lumbago," "rheumatism," "gout," "pain," sharp or burning, etc., is far more frequent than suspected. It is more common about the shoulder blades, and medium portion of the spinal column, extending down the legs, and even to the toes; relief sets free more gratitude than is good for the ordinary physician, leastwise oculist. If told that it was or is hysteria, they'll thank "all the gods that be" for the glasses that will cure such maddening pain. I dare not tell how many patients have borne witness that those burning pains of back, arms, legs, and even toes, were instantly stopped by my glasses.

General Nutritional Diseases.—The ocular reflex in thousands, or rather millions, of our countrymen often results in anorexia, "stomach trouble," constipation, and most often in nausea and vomiting (with headache, etc.) and is immediately stopped by neutralizing ametropia; the more common

denutritional diseases are usually easily demonstrably caused by ametropia.

Many so-called nervous diseases, such as neurasthenia, are beyond question frequently of eyestrain origin. I have cured, by glasses alone, cases of high blood-pressure (220 for instance), and of tachycardia (as high as 225).

Ménière's disease was and is nothing more than an acute attack of sick-headache (migraine), dizziness, vomiting, etc. The function of the semicircular canals as supposed by Ménière is arrant nonsense. If the labyrinth had such a function one would be vomiting and giddy every time and all the time, while lying down, bending over, etc., and sleep would be impossible.

Gain in body weight is so common after getting scientific spectacles that I have almost ceased to make a note of it in case histories. It follows increased appetite, cessation of anorexia, disappearance of all forms of migraine, etc. One woman was mad as a vixen because she had gained 30 pounds in a month. Asked why she was so disgusted, she replied that she had to have 17 dresses made over!

Mental Diseases, Despondency, Pessimism and Suicide.—I have gathered the details of hundreds of cases of suicide caused by ill-health during many years of search to get any relief from many physicians. The symptoms were always those of eyestrain, which in thousands of patients have been cured. Dr. Pronger of Harrogate, England, has borne witness to this truth in a number of admirably reported cases. How many millions of the slaves of civilization have gone to their self-killing! How many now are going down the long road of useless living to useless death! How many are now passing thru neurasthenia, migraine, neuritis, etc., to organic diseases which are hopelessly incurable! These patients, espe-

cially women, before the final break-up, frequently develop a symptom well known as a fact, but which has never been ascribed to its real cause. Such women can be rid of the consciousness of a constant torrent of painful emotions only by a polyalalia like that so common in insane asylums. As my assistant unpityingly said, "That woman would talk the ears off a brass monkey." I replied, "The Medieval Ducking Stool" for scolds and ceaseless talkers was the sentence of the ear that the tongue should suffer for the sins of the eye.

Assuredly pessimism and irony and cynicism are often caused by long years of nagging torments, life-wearying, hope-destroying incapacity and ill-health arising often from visual hurt and inefficiency. I have demonstrated this in half a dozen volumes of biographic studies and adequate data groan at me to make a dozen more. The bitter irony of a Swift, of a Schopenhauer, the wails of a Leopardi, Teufelsdröck's Saturnine growls, Thomson's "City of Dreadful Night"—all and other of such migraineries of the mind are really largely those of the body because morbid vision always begets morbidity of mind or body.

Lateral Spinal Curvature.—Altho seemingly out of order and unrelated, I must speak of a subject that is logically and physiologically connected with this whole affair under discussion. For several years in private practice I grew more and more conscious of the prevalence of a disease almost wholly ignored by the lay or medical world. I was curious to understand why so many patients in the refraction chair at my side tilted their heads sideways, their bodies also. When asked to sit erect, they did so imperfectly and soon tilted back. By examination of a score or two of their naked backs, I learned the reason, and directed the attention of the physical ex-

aminers of a great university to the subject and asked them to gather statistics of lateral spinal curvature. I was told that at least the photographs of the great athletes showed splendid backs, and this was true. But a little later, I learned that the photographer had performed a most expert surgical operation, not on the living spinal columns, but upon the original photographer's plates. Well, for four years the examinations went on of 1,000 entering Freshmen each year. It was then found that 87.5 per cent. of the 4,000 choice young men of the country were afflicted with permanently crooked spines. I can diagnose the disease nearly as surely, altho roughly, in a hundred men passing by or before me, fully clothed.

The cause? The writing posture, the flat desk, and right-eyedness, or rarely, left-eyedness. Curable? Yes, but with difficulties one will scarcely conquer; and, perhaps, not after adolescence. The Japanese, *c. g.*, do not have these lateral curvatures as we do, and it is because they hold the pen, pencil, or brush so that the right eye can see the letters being made without squirming the body into a dorso-left, lumbar-right curve. If our children, clerks, etc., were given a 30° inclined desk leaf to write upon, with the paper upright and opposite the right shoulder, the right eye would be able to see the pen-point and writing without any pathogenic posture of the head, neck and spine. The left-handed child must use the left eye to see the pen or pencil point and his scoliosis is the reverse of that of the right-handed child. Right hand and right eye must work together, and if the left-handed child has escaped the fury of the terrible school-teacher to know better than the Divinity who made the brain, the left eye and left hand will remain close partners.

In Brief.—I am convinced that the greatest of all, indeed the majority of all, lethal and organic diseases have as their primary stages and original causes those functional diseases incited by ametropia. In one city in the United States a house-to-house canvass, delicately and carefully carried out, brought out the fact that a great majority of the inhabitants of 100 houses were ill. The elders had organic or chronic diseases; the youngers had migraine, nutritional, nervous, and other functional diseases that can be banished at once by glasses neutralizing ametropia.

(To be continued.)

"ENDOCRINOSIS" OR HEREDITY, HABITATION AND HABITUATION.¹

BY

B. ALEXANDER BATE, A. B., M. D.,

Louisville, Ky.

"Endocrinosis" is synonymous with endocrine activity. Endocrinosis seems a fitting expression to describe the process of endocrine cells in performing their function of secreting autacoids and passing them into the circulating fluids.

The termination "o-sis" is used to denote a process or cellular action which may be either physiologic or pathologic. The process applies to the cell action.

Endocrinosis then would apply to the activities of a ductless gland, which are either normal or abnormal in character. Thyroid endocrinosis, for example, may refer to conditions in health, in hyperthyroidism or in hypothyroidism. Endocrinosis in general signifies the passage of the autacoids of the various ductless glands into circulation—pluri-glandular activity.

"Endocrinologic" is limited to physiologic endocrine states.

Endocrinopathy expresses pathologic endocrine states.

"Endocrinosis" appertains to the endocrine state of circulating *hormones* that stimulates, or *chalones* that inhibit physiologic processes, in either health or disease. Constitution, or the "functional habit" or "make-up," of the body may be said to be dependent upon endocrinosis.

Temperament or the "peculiar physical character and mental cast" of an individual are also inherited and due to a dominant endocrinosis.

Diathesis or inherited predisposition to disease, likewise, is due to transmitted dys-endocrinosis.

Englebach has classified types of dys-endocrinosis that both represent temperament and diathesis.

The congenital hypo-pituitary and the congenital hyper-pituitary conditions have now become classical types. Nothing has been received in the present year with more credence or more enthusiasm than Englebach's classification. Hertoghe, Levi and Roths-Child early described thyroid phases in every detail. "The Lorain-Levi type" was one of the first so-called syndromes.

Sajous twenty years ago wrote all that will be said in endocrinology for years to come. But he has not been read with understanding by all.

The bony-structures it is known are formed in accordance with anterior-pituitary endocrinosis. "Tethelin" of Brailsford Robertson has been proven an anterior pituitary hormone accelerating skeletal growth.

It is not the purpose of this paper to discuss these questions in the abstract, but simply to refer to the fact in general, *that a*

¹ Read before the Louisville Society of Medicine.

autacoid balance exists in the normal constitution. Temperament will be determined by the predominating endocrinosis. Diathesis will be determined by a predominating dys-endocrinosis. Temperamental deviations may be within the bounds of health, or may reach into pathology. Diathesis will always be morbid endocrine function or dys-endocrinosis.

Summarizing.—Constitution, temperament and diathesis, or heredity, represent transmitted endocrine function.

Habitation, or environment, determines to a great extent postnatal endocrinosis and greatly modifies prenatal endocrinosis. For instance, surroundings associated with more or less mental emotion favor hyperthyroidism. Hence, the endocrine balance may be disturbed by environment. Unhygienic habitation may so strain the organs of defense that the auto-protective glands permit a lowered resistance to disease. Pluriglandular deficiencies—like in tropical sprue—may result.

Thus, habitation may induce dys-endocrinosis. The effect of habitation upon type may be observed in the widely disseminated Semitic race. The American Jew is American in type; the German Jew is German in type; the Polish Jew is still different, etc., tho the parent type was common to all. Therefore, climate, diet, occupation, mental attitude and hygiene modify endocrinosis until distinct classes appear. The "survival of the fittest" develops a type locally suited—with prominence of such endocrine glands as stimulate alertness, aggressiveness, muscularity or skeletal requirements. Many of the cases of hyperthyroidism coming under my observation, give a history of having been prematurely born—seven months' gestation. Fetal endocrinosis in mothers from unhygienic

habitation is unquestionably rarely normal. On the other hand, mothers showing dys-endocrinosis placed in hygienic (which here embraces happy as well as healthful) environment, often bring forth offspring with normal endocrine function. Perfect specimens of children are born in this country of abnormal parents formerly from overcrowded Oriental homes. Hence, the influence of habitation over endocrinosis may be seen to be as powerful as heredity.

Habitation, or education, of the endocrine cells to normal function may undoubtedly be accomplished in many dys-endocrine glands.

The internal secretions associated with the process of digestion and peristalsis, have been stimulated to permanent normal activity by the use of artificial hormones and by regular habits. Habitation, or education, involves the deepest knowledge of the autacoid balance.

Hormones and chalones are but imperfectly known. Posterior pituitary hormones stimulate thyroid function; posterior pituitary hormones stimulate suprarenal activity. Apparently, thyroid autacoids are the antithesis of suprarenal autacoids. The action of their autacoids upon each other must, therefore, be inhibitive, or chalone. Each, however, appear to have hormone effect in stimulating certain phases of heart action. Endocrinologic physiology to the rescue! In general, in educing a ductless gland to normal activity, the proceeding will require balancing the hormone state artificially with the deficient secretion, stimulating this deficient endocrine function and inhibiting the too active ductless glands. This will not always be limited to the exhibition of artificial endocrine secretions, often alkaloids and other medicaments serve.

Disease frequently is the cause of dys-endocrinosis. Removal of the cause by proper remedial agents should always be added to the means of habituating to normal endocrinosis.

The question arises, what measures may be instituted to induce an autacoid balance in the fetus? In those born dys-functioning and in those with acquired dys-endocrinosis?

Case I.—There recently came under my observation a husband of the type that, according to Englebach, constitutes pre-adolescent anterior hypopituitarism.

Undergrowth—five feet, two inches; small head, small hands, *genu valgum*, upper incisors enlarged and separated, temperature subnormal, blood-pressure subnormal, weight has gradually increased until at the age of 40 years is 198 pounds, he is now a subject of diabetes, mentality and activity *above the average*. His wife is of the same type. Height five feet, three inches, *genu valgum*, weight at 19 years 148 pounds, weight at 37 years 163 pounds, menstruated at 14 years, married at 19 years, gave birth to a son 13 months later. Took on flesh from this time. No pregnancy since. Epileptiform convulsion occurred at 37 years after suppression of menstruation, and great mental emotion, subnormal temperature, ocular deviation, scanty urine, blood-pressure subnormal, intelligent good. One sister has exophthalmic goitre, but of normal stature. Another sister has pluriglandular endocrinosis, as shown by the symptoms-complex of neurasthenia.

The son at four was short and fat, at 15 years is five feet, ten inches tall, weight 225 pounds. Precocious, mentally. Has had appendiceal pains and epileptiform convulsions. The appendiceal pains have not been manifest for more than two years. The convulsions have not occurred since the thirteenth year. This boy has passed into the preadolescent hyper-antipituitary type. He has a large head, *genu varum*, sex organs overdeveloped, enlarged, and separated upper incisors. Whole pituitary glands, thyroid and parathyroid principles have been administered at times. Heredity,

certainly, here has been modified by habitation and habitation.

Case II.—In the case of a woman, married 11 years without pregnancy, receiving thyroid substance to overcome obesity, the thyroid secretion was stopped when patient's weight had been reduced from 260 to 200 pounds because of pregnancy. The child is now eight years old and perfectly normal, no tendency whatever towards dys-endocrinosis.

These prototypes, together with many successfully treated cases of hyper-thyroidism, lead me to believe the difficulty is not so much in correcting dys-endocrinosis as in correctly classifying or diagnosing the condition.

Briefly, endocrine dysfunction, should when possible, be considered *in utero*.

From infancy to old age, the internal secretions are susceptible to successful medication. This medication will be for the most part opotherapy, but causal relations must be considered, and alkaloidal, hygienic and other therapeutic measures are of service.

Therefore, heredity, habitation and habitation may be said to determine endocrinosis. Consideration of these states answers the question, as to fetal, infant and adult endocrinosis, in that it shows an autacoid balance may be established and maintained by proper therapeutic measures, always embracing opotherapy.

Chronic Nervous Appendicitis.—Scheltema (*Nederlandsch Tijdschrift v. Geneeskunde*, May 21, 1921) analyzes seven cases of nervous disturbances, headache, melancholia, irritability, insomnia, dizziness, habitual constipation, general weakness, poor appetite, inability to think clearly, and temperature slightly above normal at times, usually in the middle of the day—all of which subsided after operative treatment of chronic latent appendicitis.

THE PSYCHOLOGY OF WAR.

BY

L. S. OPPENHEIMER, M. D.,
Tampa, Fla.

"Wake! For the Sun who scatter'd into flight
The Stars before him from the Field of Night,
Drives Night along with them from Heav'n,
and strikes
The Sultan's Turret with a Shaft of Light."
—*The Rubaiyat.*

War is defined as a state of opposition or contest. In this sense the entire universe is in a constant state of war. The world is held in position by opposing forces; energy opposing matter; thought opposing the elements; and down the gamut thru eternity—whatever that means—the eternal battle goes on. Who survives must destroy. Who lives must overcome. Eternal battle and insurrection are the conditions of the survival of anything. Inertia means death. But inertia is merely a relative term, for no such condition exists in the universe, every ion being in violent activity; and death is but a change of form in the conservation of energy.

The planets are kept in their orbits by force opposing force. Their known battlefields extend from the oscillating ions in the hearts of the suns, across restless space, to the vibrating electrons in the star Alpha, whose distance is so stupendous that its radiant energy which traverses the 8,000 miles of the earth's diameter in one-twenty-fourth of a second, takes three years to reach us; and on and on thru the eons and Beyond, expending its force.

Here, on earth, the plant takes its sustenance from the earth and sun, and earth and sun lose what the plant gains. The herbivora prepare themselves for the carnivora, and the latter prey upon each other, and man, being the most intelligent, brings all the others under his subjugation for his prey. In our own bodies the ceaseless battles of the various classes of phagocytes or leucocytes, clashing bacilli, and other militant elements, are necessary to maintain the physiologic equilibrium. Increase one or the other, or let extraneous enemies gain entrance, and *pari passu*, the war is on to the death of the invaders or of the host.

Force is King; and the worship of Force by the intelligent as well as the ignorant is

not to be denied. If the wizard inventor, and human benefactor, Thomas A. Edison would arrive in this city at one station, and the much advertised, very common man, the prize pugilist, Jack Dempsey would arrive at the same time at another station, you know as well as I that the welcoming crowds would be found groveling at the feet of physical force, obeying the call of Nature's instinct.

Force, intelligently directed, makes right cower at its feet. Do you believe that Germany in 1870 overpowered decadent France because she was right? Then you must also believe as a corollary, that she lost the last war because she was wrong. Neither premise nor conclusion is warranted. It was superior physical and intellectual force that won in both instances.

One thing is universally conceded; the Germans were the protagonists of military progress; and German progress in the industrial arts and sciences and in economics has made the German people more efficient and potential than any other people on earth. The natural assumption is that German militarism is responsible for the German efficiency; that an aggressive organization of all the constructive elements of a nation results in increased power.

The power of moral force, intelligent conduct, diplomacy and education, to conciliate belligerent elements, is not disputed; but it is denied that the time will ever come when these influences will entirely avert war. The aggressiveness, the ambition, the progressive spirit of man, tend in spite of himself toward the military; and military art develops the highest types of genius. It calls into vital activity every specialty in human affairs. It is both a profession and an industry; for labor-saving machinery is as indispensable to warfare as it is to peaceful industry. Today a single trained man with a modern rapid-fire gun can successfully contend against a hundred men with rifles, and man-power and life is thereby conserved. So that Hudson Maxim tritely enunciated the startling axiom: "The rapid-fire gun is the greatest life saving instrument ever invented." But this manner of reasoning can just as consistently be applied to the new gas that war developed in this country before the war closed, with which a few aviators can destroy every vestige of life in New York in a few hours. But none of these will prevent the enemy from

attempting to excel in the same field, or to protect himself against them.

War calls forth the most supreme virtues, attributes, capabilities, energies, elements that can be developed in the human character. On the one hand, Love the King of Kings, fraternalism, patriotism, honor, pride, power, initiative, psychics, spirituality, religion, philosophy, arts, sciences, all, all are strained to the very highest pitch to meet the requirements of the times. On the other hand, are developed cunning, deceit, falsehood, hate, hypocrisy, contempt for religion, theft, homicide, fratricide, and all the unmentionable brutal instincts of the animal. No crime so horrible as to be considered unjustifiable by the laws of war. Ethics and other so-called restraining influences are artificially written vaporings; and civilized warfare is a term so absurd in its self-contradiction as to be beyond argument. War is war; and no intelligent nation should expect quarter except as its adversary can be forced to give it or in surrender. That is the fundamental principle of war, and modern warfare differs from ancient warfare only in degree and not in kind.

The criminal practices of war develop and encourage in the lower classes of men, the degenerates, criminal and brutal tendencies and instincts which they continue to practice after the wars have ended, their examples producing such a demoralizing influence on society as may require a whole generation of penalizing and re-education to overcome.

Man is an aggressive animal. No system of ethics or laws will prevent men from preferring personal violence in some affairs to the adjustment by diplomacy, law or safety. There will be fighting as long as men live; and nations are but aggregations of men; and the identical laws of one govern the conduct of the other. The education gained by disaster and pain have their deterring influence, but they can never wholly eradicate the instincts of race.

Disarmament, arbitrament, education, organization are splendid bases for international conciliation; but they are as futile as the Golden Rule, which, in spite of its spiritual beauty is as visionary and impossible of execution as any other teachings based on mere moral aspirations.

The Prince of Peace has been repeatedly, flagrantly insulted by a world of warring

nations who called him their God and each other brethren, then followed his priests to the butcher's fields.

The Golden Rule presupposes that every human being is good, that he is willing to give to the other man all that he would wish the other to give to him; that he would sacrifice his own comforts to help the other; that resentment and hate shall not control or modify the law. These alone prove the fallacy of the beautiful sentiment. But, to prevent the law completely from ever becoming effective, it carries no penalty for its infraction. Without force, laws are sterile. Education and morals can only mollify.

That nearly all sentient beings desire peace is probably a trite self-evident proposition. Every country, every individual at present longs to enjoy a respite, relief from the cruel demands and sufferings of war—the sweet calm of universal fraternalism, happy homes, prosperous industry and peaceful country, the Utopian dream of every heart. Is it not so?

All the world is on the tip-toe of expectancy; and the uncertainty of the psychologic attitude of the United States is very disquieting to them. The times are pregnant with the weightiest problems that have ever confronted the human race. Will these problems ever be solved? For instance: If general, international disarmament is agreed upon (which rest assured it never will be in an honest, sincere, complete manner), do you believe that every one of the High Contracting, or the Low Contracting, or the Non-Contracting Parties will indefinitely, under all circumstances, adhere to the conditions? Do you believe that any sort of Pact can make a dishonest, unprincipled, long-suffering people adhere to its promises? If you are so credulous you surely have not studied the history and characteristics of some very prominent nations.

A League of Nations; International Amity; International Conciliation; A League for Peace; The Millenium; Utopia; are high sounding names. But there is not a scintilla of evidence as yet to show that the slightest progress has been made in the hearts of men towards peace. Indeed, it appears as if the White Dove had eaten the olives from her branch, and the twig has been adopted as an emblem of War.

And really, the possibility of a time when

utmost Peace will reign is horrible to contemplate. It would mean that the active forces of nature would cease. Men and things would either terminate at once or move on aimlessly; for man there would be no change, no progress, no growth, no ambition, no end of life. Man would never die, would never prepare for any tomorrow, or labor for those he loves. Death, which is one of nature's richest gifts, would be unknown. Nature would be our eternal task-master. At present we are always battling with nature, subduing her to our needs. In order to maintain our span of life we must create complicated, artificial conditions; we must clothe our bodies, build a roof over our heads, store up provisions for the future months when nature denies us nourishment, while invention and arts are taxed for our necessities. There is only one very narrow strip of our planet where mankind can live without exertion, on the South Sea Islands. There he needs no clothes, no dwelling, no protection against beasts of prey; at all seasons his food is prepared for him, in the cocoanut palm, the bread-fruit tree, the banana, in some domestic animals, in fish and mussels. But how many men could this small earthly paradise maintain? A very small proportion of present humanity.

Twenty-five years ago, deBloch, the historian, "proved" conclusively in his popular book, "The Future of War. Is War now Possible?", that war had become so destructive, so expensive, as to be impossible. Since then a thousand other writers in a thousand different ways "proved" that war was absolutely unthinkable. And then came the avalanche of Reason and Destruction. And so it will continue to be forever, modified by the intellectual, financial and physical powers of the contending peoples.

We are again told by the present prophets that this war is truly the last great one, that the lamb will cuddle up beside the lion. They are blind to history, which relates that in due time nature's promises will put that lamb where you would expect it to be under these conditions.

A little old fable comes to mind:

A wolf was drinking from a streamlet. A meek little lamb was also drinking from the same streamlet a little further up. Mr. Canis Lupus shouted to Miss Agnus Merino, "Say there! You pusillanimous grass-eating wretch! What do you mean

by muddying up my drinking water?" "Dear Mr. Wolf," tremblingly replied the innocent emblem of Christianity, "I meant no harm. It is true I don't eat flesh like you do, it makes one vicious, but I saw no wrong in drinking this water intended for all of us." "What!" screamed Mr. Lupus, "You blaspheming infidel, criticizing God for his good works! He made you to eat the grass one mouthful of which would make me vomit. Grass makes good, tender lamb's meat, and He has made me to love it, and He has made my teeth and claws to tear it apart so I can eat it, as I shall do right now." And he forthwith carried out nature's law. And there followed no retribution.

It was Sir Hudibras, who some centuries ago said something like this:

"Big fleas have little fleas to bite 'em;

Little fleas have smaller fleas;

And so, *ad infinitum*."

War, savage and brutal as it is, elevates, civilizes both victor and vanquished, for there is a heroism even in defeat. The pages of history teem with this lesson. The stories of Cæsar's hordes are known to every school child; he knows that the mighty sword of Cæsar carried civilization, culture, education, enlightenment into the lands of the Briton, Teuton, Saxon and Gallic barbarians. And then, the victors, glutted with success, became the slaves of luxury, idleness and all the degrading vices of license and debauchery; and Rome tottered, crumbled and decayed; while the vanquished barbarians pressed steadily onward in the intellectual and material up-building of their peoples, and today stand in the vanguard of civilization and progress. The law of compensation never rests.

The lessons of the Civil War of the United States are many; but none more conspicuous than that of the proud, haughty people of the lazy, depressing southern clime; lethargic, without initiative, seemingly ambitionless, non-progressive, self-satisfied, self-indulgent, dependent mainly on their slaves to care for and support them; at last, aroused to battle for their supposed rights and the preservation of their property, they developed a spirit and a genius for the higher attainments that have challenged the admiration of the world, and immortalized many of their leaders. True, they lost the battle for the Cause for which they contended, but that loss was converted

into their emancipation, as well as that of their slaves. Today no section of the world has produced greater men and women, no country has produced more valuable results from the soil. Its states teem with humming mills and factories and mines and the life of prosperous general industry.

This warm, southern, lazy clime is for many of the months depressing, enervating. Transplant these Southerners to the more vigorous, stimulating North, and many quickly develop into leaders in every branch of thought and endeavor. They are now a prosperous, happy, independent people, whose warm-hearted humanity and aggressive chivalry are axiomatic over the world, and have produced a patriotism and a mental vigor of the highest type. And these the vanquished have inherited from war.

In the ultimate analysis, Public Opinion is the arbiter, the controlling power of nations. Wise selections of leaders in government, in the military, the education of the young by trained teachers, a constitutional censorship of the press, which is the most potent moulder of public opinion, are, therefore, some of the conspicuous safeguards of the nations. On these rest the gravest responsibilities of humanity.

DESTRUCTIVE CRITICISM—A PSYCHOLOGIC SYMPTOM.

BY

SIMON LOUIS KATZOFF, M. D., PH. D.,
Bridgeport, Conn.

On the subject of "Speech" the Talmud, in part, says:

"Speech is the messenger of the heart."

"Open not thy mouth to speak evil."

"To slander is to commit murder."

"A word is like milk, which once drawn from its original source, can never be returned."

How true are the words of wisdom from the Talmud to this very day. They are advice and warning to the ages. They lead us to note the paradox that about one-half of the human race usually misunderstands the other half. Moreover, hatred is not due to malice, but to misunderstanding.

Unfortunately, the latter is most often evident in our critical turn of mind and speech.

Do we ever stop to realize the amount of time, energy and intelligence we waste in destructively criticizing others?

Psycho-analysts, or evolutionary psychologists, differ somewhat as to the causes and significance of this partly psychic and partly social manifestation. Some attribute this modern and popular (indoor sport) malady to the hasty, nerve-wrecking and competitive era in which we now find ourselves. Some claim that it is because we do not cultivate the spirit of tolerance. Others assert that destructive criticism is due to the loveless lives that many men and women live. In other words, living a lie (as millions of unfortunate people do, when they live with the one they do not love), makes for repression, depression, irritation of the subconscious and carelessness of thought or speech. There is no more convenient way to give vent to this subconscious irritation than to burst forth like lava from the crater of a burning volcano, at the least provocation, or "whisper it out" of the system irrespective of the justice involved, or consequences that may follow.

Not only does a loveless existence divert man's attention from the normal channels of thinking and feeling, but it undermines his very manhood and poisons his soul. While man is in this aberrated frame of mind he is at his worst, instead of his best, as he normally should be. The very food he ingests is converted into ptomaines and toxins which disturb mental equilibrium and help pave the way for thoughtless and humanless utterances.

When such a victim (the psychologist sees many of these specimens) comes in contact with other human beings, he is incapable of seeing the good and beautiful in

his fellowmen; he cannot bear to hear good of them. He is blind and deaf to all that is noble and beautiful in others, despite the accepted fact that there is a great deal of what we term good, noble and beautiful in all human beings. Instead, he begins to hunt for and perceive the oddities in the other person—thus becoming a real addict to this narcotic disease, destructive criticism.

This critic should not be condemned. He is a sick member of the community. He needs sympathy, care and treatment.

He should submit himself to a psychoanalyst for an understanding of the prenatal infant and child life experiences which, in all probability, caused or contributed materially towards the present abnormal manifestation.

When one speaks with savage bitterness of a competitor or rival, the skin of his forehead will draw downward and the upper lip rise in a snarl. His physiognomy will resemble the gorilla or chimpanzee.

How different when one speaks kindly of a person! It brings the highest—the best that is in one, to the surface. One thus earns to be pleasant, smile, relax—all of which makes for kindness, love, patience, tolerance and health.

While speaking well of others, one unconsciously cultivates a desire to see the good, the beautiful or noble in everybody—and in all nature. It then begins to dawn upon one that there is something noble in each of us. Everything depends on the perspective, on how well our natural soul is attune to the beautiful, the harmonious about us.

Life is too short and too precious to waste in being angry—or, in destructive criticism, such as is common—too common. Criticism that is brazen, malignant or chronic should be discouraged. However, constructive criticism should be encouraged

by all who seek truth, liberty, tolerance and wisdom.

Let us, then, "agree to disagree" with some who irritate us; be more tolerant of our fellowmen; and not forget that destructive criticism is largely a symptom of psychic maladjustment.

TYPHOID FEVER A VANISHING DISEASE.

BY

G. H. SHERMAN, M. D.,
Detroit, Mich.

Medical progress is nowhere better illustrated than in the control of typhoid fever. Twenty-five years ago it was one of the prominent prevailing diseases. During the Spanish-American War, in spite of all the sanitary precautions, typhoid fever was alarmingly prevalent among the American soldiers.

After the discovery of the typhoid bacillus and the fact that this germ contaminated drinking water, much was accomplished by purifying the drinking water of our cities, by giving general directions towards preventing well pollution and by carefully inspecting and procuring sanitary conditions at the source of our milk supply. While these improvements helped, the sharp decline in the prevalence of typhoid fever dates from the time that prophylaxis was adopted by means of typhoid vaccine inoculations.

While it is well known that the main source of typhoid infection comes primarily from the water supply, it is also established that the typhoid bacillus cannot permanently maintain itself in water unless fresh typhoid bacilli derived from a typhoid infected person are continually supplied. It has been experimentally demonstrated that

the typhoid bacillus cannot maintain itself in water at the prevailing temperature during the summer months against the common bacteria usually present for more than six weeks or two months. If, for example, a well has become contaminated with typhoid germs they will be entirely eliminated if no fresh typhoid germs gain entrance to the well from some typhoid patients. It is safe to say that most of our typhoid fever at the present time comes from infected wells.

Of course, in our large cities and towns we do not drink well water, but that does not entirely free us from the typhoid contaminated well. We must consider that much of our food supply comes to us in the raw state in which well water is employed in its preparation. Chief among these are milk and butter. Water from a typhoid contaminated well used for washing pails and other utensils employed in handling milk will infect the milk. Butter made from such milk will harbor the typhoid bacillus. Lettuce and radishes washed with water from a typhoid contaminated well are liable to cause typhoid fever. So every additional case of typhoid fever becomes a new menace in spreading the disease and this is best controlled by prophylactically immunizing every person in a community where typhoid fever prevails. This prevents the exposed from contracting the disease and limits the radius of exposure to a small circle. So with systematic, persistent prophylactic immunization, the prospects are that typhoid fever would be stamped out.

Unfortunately, typhoid fever has not been entirely eliminated from our summer resorts. This is a grave danger to those contemplating a vacation during the summer. Since typhoid prophylaxis is efficient and devoid of inconvenience, it behooves every

one contemplating a vacation in the country or at some summer resort to take three doses of typhoid vaccine. The simple assurance that one is protected against typhoid infection is ample compensation for the slight inconvenience typhoid vaccination will entail.

Preference is now given the mixed typhoid and para-typhoid A and B vaccine. The first dose is 0.5 mil and the two subsequent doses 1.0 mil, inoculations being made at 6 to 10 day intervals.

The advantage of giving typhoid vaccine in the treatment of typhoid fever is not receiving sufficient attention. The notion that infecting organisms in acute infection where toxic symptoms are present, influence tissues to the utmost of their defensive capacity for antibody production unfortunately still prevails in the minds of some physicians and for that reason they think vaccines are contraindicated in the treatment of typhoid fever. The tardy course which typhoid fever pursues shows that antibodies are formed slowly, that not enough tissues are actively engaged in antibody formation to develop rapid immunity. By giving vaccines, this condition is overcome, the tissues into which the vaccine is injected becoming actively engaged in antibody formation. The tissues into which the typhoid vaccine is injected are not aware that the injected germs have been killed. They possess the bio-chemical construction of the living germs and being intruders in the tissues into which the vaccine is injected get busy in their efforts to get rid of them and, during this process of destroying the injected germs, antibodies are produced. These antibodies are then absorbed and by means of the circulating medium are conveyed to the infected area and there aid the involved tissues in destroying the infecting organism.

It is also found that a much more marked immunizing response is usually obtained from the inoculation of a bacterial vaccine than from an active infection. This may be accounted for on the ground that killed germs when injected under the skin do not have the devitalizing influence on tissue cells that are produced by living germs in an infection, and consequently the entire cell energy may be devoted, without hindrance, to the production of antibodies.

When typhoid vaccine is given early a normal temperature may be looked for from the twelfth to the sixteenth day. Here the question of making an early diagnosis is very important. To wait for a positive Widal would be postponing treatment entirely too long. A bacterial examination of the blood will give much earlier diagnostic evidence. Ordinarily clinical symptoms are sufficient. Where clinical symptoms indicate typhoid infection, typhoid vaccine should be given at once. If no typhoid infection should exist, no harm has been done and the patient has had the benefit of the doubt.

No material febrile reactions or other untoward symptoms follow the administration of typhoid vaccine. It appears that the tissue cells of the body have become somewhat prepared for immunizing activities as a result of the existing infection and consequently respond promptly under the stimulating influence of the vaccine. Within 24 hours, beneficial results may be observed. This is most manifest on the nervous system. The mind clears, the patient looks brighter and suffers less. The temperature in most cases will run a lower and aborted course. Where severe symptoms and high temperature exist from the start, not so much reduction in temperature is liable to take place, but the mental condition

and nervous system will be markedly improved.

From published case reports it appears that larger doses may be employed to advantage than was at first thought advisable. Treatment should be started as early as possible by giving 250,000,000 and inoculations repeated at two- or three-day intervals by increasing the dose one or two hundred millions for each subsequent inoculation until a dose of 1,000,000,000 organisms is reached. Where a normal temperature is reached after an inoculation the subsequent dose should not be materially increased and the interval extended to from three to five days.

Where no material improvement is observed after a few inoculations the question of a mixed or para-typhoid infection should be taken into consideration. Para-typhoid infections are not uncommon and in such cases mixed typhoid, para-typhoid A and B vaccine should be employed.

The possibility of complicating infections in typhoid fever has not received as much attention as the subject deserves. It is entirely probable that the inflammatory condition of Peyer's patches is aggravated by the colon bacillus, streptococcus and other infecting organisms normally present in the bowel, and it is also likely that many of the deep ulcerations causing perforation and hemorrhage are due to these complicating infections. Pneumonia is also a complication which is often a primary factor in causing a fatal termination. These pneumonias are usually of the bronchial type and due to mixed infections. All cases of typhoid fever, where a bronchial cough is present, should receive a mixed vaccine. For this purpose a vaccine containing streptococci, staphylococci, pneumococci and colon bacilli would answer the best purpose because in addition to the

organisms usually found in bronchial infections, this formula also contains the colon bacillus, which would be beneficial in building up a resistance to this organism in avoiding bowel complications. Where the mixed vaccine is used in conjunction with the typhoid vaccine it is preferable not to give them the same day. By giving them separately, any reactions that might occur may be attributed to the proper vaccine.

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The Importance of Using Pituitary Extract with Care and Intelligence in Obstetrics.—Mendenhall (*Indianapolis Medical Journal*, Aug., 1921) emphasizes the great necessity of administering this drug with the utmost care and discrimination, and points out the proper indications for its use. He says no one questions its safety and value under a great many conditions that may arise following the birth of the placenta. Two noted obstetricians are giving it routinely immediately upon the birth of the child; both have very large series of cases and as yet have had no unpleasant results, but until more has been done along this line definite conclusions had better be reserved. A number of operators are administering pituitrin just as the uterus is being incised in Cesarean section, or very promptly after extraction of the child, and when sustained by ergot this procedure may be strongly indorsed. Some authorities report fairly successful results in the administration of pituitrin to aid in the emptying of the bladder during the puerperium. When the cervix is fully dilated, when it can be accurately determined that there is no disproportion between the passage and the passenger, when the presentation and position are normal, when there are no obstructing tumors, and when the pains are weak and declining we may be said to have indications justifying the cautious use of small doses of pituitrin—2 to 3 minims—remembering that episiotomy, or low for-

ceps, or both, are usually better obstetrics. Contraindications to the use of this drug are undilated cervix; disproportion between passenger and passage; abnormal presentation or position; pressure of obstructing tumors; scar from previous Cesarean section or myomectomy; heart disease in the mother; eclampsia; threatened asphyxia of the child *in utero*, and when contractions are already strong. If the above indications and contraindications are met it is obvious that the administration of pituitrin during labor at least will be exceedingly infrequent. In conclusion, a warning is sounded that he who administers pituitrin to a patient in labor is using a very powerful and quick acting drug, whose strength is unknown and whose action upon the particular patient can by no means be predicted, whose use has resulted in the prompt death of a large number of women and a still larger number of children, and whose usefulness is limited to very narrow fields.

Adenoids and the Thyroid.—Barr (*Practitioner*, June, 1921) believes adenoids are due to imperfect natural attempt to compensate for defective action of the thyroid. About puberty when the thyroid becomes active, adenoids usually shrivel up, and long before this the thymus has dwindled away. An inactive thyroid leads to poor mental and physical development in children, with liability to catarrh and increase of lymphoid tissue, and this is often associated with excessive salivary secretion and incontinence of urine. The treatment recommended is thyroid, iodine, calcium iodide, syrup of iodide of iron, and cod-liver oil. A lump of solid iodine placed in a current of air in the children's living room is also advocated.

The Treatment of Psoriasis by X-ray Stimulation of the Thymus.—On the hypothesis that psoriasis is due to lack of functional activity of the thymus, Brock undertook the stimulation of this gland by X-rays, carefully shielding the thyroid and parathyroids and using very weak doses. Aside from the mistakes made by using too strong doses, the author (*Strahlentherapie*, Sept. 15, 1920) claims that the results were remarkably good. In

hyperactivity of the thymus; in status thymicus, psoriasis never occurs. In pregnancy and during lactation, psoriasis is apt to occur, which heals as soon as this overactivity of the reproductive organs ceases and the thymus is no longer antagonized. Psoriasis is also apt to occur at puberty, when this reproductive antagonism is again pronounced. Brock is confident that psoriasis develops because there is not enough stimuli from the thymus. If the thymus is stimulated by mild doses of X-rays, the psoriasis is cured. If it is paralyzed by too large doses of X-rays, the psoriasis becomes worse. The thymus of children is much more sensitive to X-ray than that of adults, and demands smaller dosage.

The Effect of Pituitary Extract on the Urinary Flow.—McBrayer summarizes his interesting paper (*Southern Medicine and Surgery*, June, 1921) as follows:

1. During the first hour following the hypodermic injection of medicinal doses of pituitary extract the urine output is markedly decreased.
2. During the same period of time the total output of urinary solids is markedly decreased, both relatively and actually.
3. During the same period of time there is a marked and constant decrease in the systolic, diastolic, and pulse pressures; and pulse rate, which decreases, appears to be definitely related to the decrease in the fluid and solid output of the urine.

Organotherapy in the Management of Menstrual Disorders.—John C. Hirst writing in the *New York Medical Journal* (Oct. 5, 1921) states that while results are not invariable with any extract, but if intelligently used, a good degree of success can be expected; excepting always the use of ovarian residue, where the results are considered decidedly nebulous.

Results are often slow, particularly in menstrual disorders, and patience is one of the prime requisites in both patient and doctor.

Results are most prompt in the menopause with the whole ovarian extract, and in the nausea of pregnancy with corpus luteum extract.

Cooperation between physician and patient is needed, and overoptimistic statements are to be avoided. The tendency is to expect too much and too quickly.

The most discouraging results are with the cases of obesity and amenorrhea.

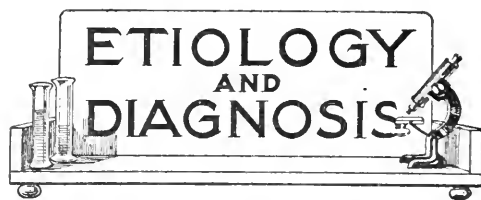
We are only at the threshold of the problem of all the glands of internal secretion. Hirst believes, however, that future development will be along the lines of pluriglandular therapy, due to the probable correlation between the pituitary, thyroid, mammary gland, suprarenal, and ovary, rather than in the use of single extracts. Especially will this hold true in the developmental anomalies of the genitalia.

Pituitrin in the Third Stage of Labor.—Hefferman (*Boston Medical and Surgical Journal*, Oct. 13, 1921) asserts that pituitrin, when administered at the beginning of the third stage of labor, is effective in aiding a prompt and complete detachment and expulsion of the placenta and membranes.

Tetanus uteri with incarceration of the placenta does not occur from the careful use of pituitrin in the third stage of labor.

Pituitrin tends to prevent relaxation of the uterus and post-partum hemorrhage during and after the third stage of labor.

Finally, says the author, manual removal of an adherent placenta should not be attempted until at least three doses of pituitrin have failed to produce detachment.



The Etiology of Puerperal Eclampsia.—Barton Cook Hirst maintains (*New York Medical Journal*, Oct. 5, 1921) that the origin of the toxins of eclampsia is mainly in the fetal body; to a less degree in the placenta. Every living cell must get rid of some of the products of its life activity or it perishes. The vast aggregation of cells in the fetal body has no way of eliminating these products except by emptying them into the maternal blood. The fetus lacks perspiration, respiration, defecation and urination. The placental cells also must get rid of their waste products. These also are thrown

into the maternal blood. The process of conversion into excretable substances begins in the placenta, but only to a moderate extent; the process is continued by the maternal liver and probably to a less but an important extent by the endocrine system. Finally all the excretory organs of the body eliminate the substances thus reduced to excretable form, the principal rôle being played by the kidneys, but the lungs, the skin and the bowels play their part. The adult body has enough to do to take care of the incineration, oxidation, and elimination of the products of its life processes; when the waste products of the fetus and the placenta must also be taken care of, it is no wonder that overburdened organs break down—which is all the more likely if a heavy proteid diet, an inactive skin, and sluggish bowels increase the work they have to do.

Hence the success in avoiding toxemia by a diet light in proteids, by preserving normal skin action, by regulating the bowels and stimulating the liver at stated intervals of about every four weeks by a mild course of calomel and soda followed by a light saline laxative.

Flies as Distributors of Intestinal Protozoa.

—Since the classic positive demonstration by Smith and Kilbourne (*Jour. of the Amer. Med. Ass'n*, June 4, 1921) that insects may be instrumental in the transmission of disease, the house fly has often been accused of being one of the disseminating agents. Today this familiar insect pest stands not only accused but also repeatedly and convincingly convicted of the serious charge. The association of the fly with pathogenic bacteria is frequently pernicious to public health. The microorganisms of suppuration, the germs of typhoid, cholera, dysentery and tuberculosis, not to mention others less prominent in the public mind, have been detected in league with this omnipresent insect traveler. The incrimination that epidemics may be brought about thru the dissemination of infectious material by flies has repeatedly been sustained. How persistently they may harbor the sources of danger is shown, for example, by Ficker's observation that flies fed on typhoid cultures may still give off the bacilli twenty-three days after infection. Heretofore, the bacterial parasites have claimed foremost consideration in relation to the fly. But now a new menace looms up. Root, an entomologist of the newly established School of Hygiene and Public Health at Johns Hopkins University, has demonstrated the possibility of a hygienically undesirable association between flies and intestinal protozoa, including the genus *Endameba* of unsavory reputation. Fortunately, the free forms ingested by flies are apparently killed within an hour without encysting. But cysts of the intestinal protozoa survive much longer in the bodies of flies. According to Root, flies feeding on a human stool containing cysts or free forms of intestinal protozoa will take large numbers of them into their intestines and deposit them again in their own feces. Since all stages of the protozoa are killed within a few

minutes by drying, such fly feces are dangerous to human beings only when deposited on moist or liquid foods. A fly which has once ingested fecal material containing protozoa may deposit feces of its own which contain the infective forms of the protozoa at any time from a few minutes after feeding until the most resistant forms, the cysts, are dead. The deposited cysts of amebae may survive as long as two days under favorable conditions. These experiments emphasize anew the importance of flies as carriers of disease-producing organisms from human feces to human food.

Syphilis of the Heart.—Harlow Brooks (*Am. Jour. of Syph.*, April, 1921) states that syphilis involves the heart with great frequency both in early and its later stages of infection.

The signs and symptoms of syphilis of the heart are simply those resulting from the particular lesion present and often develop few or no definite characteristics aside from their association with a history of infection, the Wassermann reaction, and the relief of symptoms and signs under specific treatment. Ordinary methods of cardiac treatment fail to give relief unless combined with specific medication. Successful treatment in any case rests on the recognition of the cause of the disease.

The Significance of the Bacteria Found in the Throats of Healthy People.

—Bloomfield (*Bulletin of the Johns Hopkins Hospital*, February, 1921) made frequent cultures of six healthy individuals' throats, covering a period of from one to three months. The organisms present were divided into two groups, the true normal flora including non-hemolytic streptococci and gram negative cocci, and pathogenic or non-pathogenic organisms which are accidentally introduced and are present usually only a short time in a given individual.

Chronic Nephritis.—The patient with chronic nephritis without edema should be studied as a whole and treated as a whole. McLester (*Jour. of the Amer. Med. Ass'n*, July 9, 1921) says that the patient should be permitted a fairly well-balanced low calory diet with small amounts of meat and a very little salt; and lastly, his entire life should be so reordered as to obtain for him an abundance of rest, some peace of mind, and a fair amount of play.

Biliary Obstruction in Jaundice.—McMaster and Rous (*Jour. of Experimental Medicine*, June 1, 1921) state that the clinical jaundice encountered in association with local liver lesions should be viewed not as a result of local bile resorption, but as due to a general injury to the hepatic parenchyma or ducts, or to blood destruction.

Local Infections in Infancy Often Overlooked As the Cause of Gastrointestinal Disturbance.—

Helmholz (*Minnesota Medicine*, October, 1921) discusses this interesting subject and calls attention to the frequency with which tonsillitis, nasopharyngitis, otitis, or pyelitis, etc., in infants may exist without causing local symptoms. This lack of local symptoms constitutes the main reason why the parenteral nature of the nutritional disorders is so easily overlooked. The general symptoms of fever, irritability and restlessness are readily ascribed to a gastrointestinal disturbance with symptoms of nausea, vomiting and frequent stools. This conviction is still further strengthened by the improvement in the general symptoms coincident with the results of free catharsis. This result naturally leads to acceptance of the view that the disturbance was of a gastrointestinal nature. As a rule, these infections are of very short duration and the temperature seems to drop almost coincidentally with the effects of the catharsis. If a child has diarrhea, we are inclined too readily to ascribe the symptoms to gastroenteritis. Often the child has gastroenteritis, but in many instances a careful physical examination reveals some parenteral infection which is responsible for the gastrointestinal symptoms. If the infection is mild, the damage done by the use of cathartics for a day or two is not very great; if, however, the disease is otitis media or pyelitis and the temperature persists for a week or more, the results of continuous catharsis may be serious and endanger life. The complete emptying of the bowels unquestionably is of great benefit, and the response of the mucosa with increased secretion is of great importance. The reason so frequently given for continued catharsis is that the stools are green and, in spite of catharsis, remain so. If calomel is being used the stools will tend to be green. With the use of other cathartics, depending on how complete the hunger stool is, the shade will vary from brown to olive green. These olive green hunger stools in particular are wrongly interpreted as evidences of irritation, and catharsis is continued.

The harm done this way is two-fold: First, the excessive catharsis and frequently starvation, and second, oversight of the underlying cause. The realization that an infection anywhere in the body has a very decided effect on the digestive processes is of the utmost importance. It is essential, therefore, that any infant with an acute disturbance should be carefully examined for parenteral infections. Inasmuch as they are relatively few, the task is not difficult. Infections in infants beside the occasional infections of the gastrointestinal tract are in most cases either those of the upper respiratory tract or of the urinary tract. An affection of the upper respiratory tract is frequently difficult to localize when it involves the nasopharynx alone. If it is associated with swelling of the nasal mucous membrane, it becomes very evident by the noisy breathing and difficult nursing. It is important to remember that frequently in the first twenty-four hours of an acute infection of the throat there may be little, if any, redness or swelling of the fauces

and only after twenty-four hours do the local signs become manifest. The common cold usually precedes the more severe manifestations of the bronchi, lungs or ears. The interval between the cold and its complications may be extremely short, but almost invariably a period of one or more days intervenes. The more acute the onset of the illness, the more likely is the appearance of gastrointestinal symptoms. The infection very markedly disturbs the secretion of the digestive juices and as a result the food remains undigested in the stomach, to be returned by vomiting or, if passed into the small intestine, setting up disturbances that give rise to diarrhea. Thus anorexia, vomiting and diarrhea result from an infection elsewhere in the body which may give no signs locally and manifest itself only in the gastrointestinal canal.



Serum Treatment of Lobar Pneumonia.—Niles, in concluding his presentation on the serum therapy of pneumonia (*New York Med. Journal*, June 15, 1921), lays stress on the following details:

1. An exact etiologic diagnosis should be quickly made in every patient suffering with lobar pneumonia.
2. With very few exceptions Type I pneumococcus infections should be treated with Type I antipneumococcus serum.
3. The serum should be given in large doses (generally 100 c. c.) and repeated every eight hours until the temperature falls and remains below 102° ; if it subsequently rises the administration of serum should be repeated unless complications, which should always be suspected, are determined.
4. The serum treatment should be commenced as early as possible; it should reach the vein at about the body temperature and the first 15 c. c. should be given slowly.
5. Polyvalent serum should never be given, and Type I serum should be administered only to prove Type I infections.
6. The serum treatment above outlined reduces the mortality of Type I infection more than fifty per cent.

Treatment of Hiccough.—Leven (*Presse médicale*, December 29, 1920) recommends lying face down on the floor as a measure for arresting hiccough. In illustration he cites the case of a patient who had had hiccough for three days and in whom a variety of well-known remedial procedures had failed. A few minutes after he had been told to lie down face downward he

left the office wholly relieved. Frequently it is advisable also to reduce the irritability of the gastric mucous membrane by prescribing two grams of sodium bromide a day in divided doses after meals, as well as one tablespoonful every two hours, five or six times a day, of ten grams of bismuth subcarbonate and twenty grams of acacia in 300 mls of sterile distilled water.

Vaccine Treatment for Asthma.—Vaccine treatment is indicated in most cases of asthma states Funk and Vaughn in the *Therapeutic Gazette* (October 15, 1921). In those instances in which sensitization seems to be primarily bacterial, its use is attended by the largest percentage of good results. In this group, Walker (*Archives Internal Medicine*, 1919, xxiii, 220) obtained relief in 75 per cent. and improvement in 21 per cent. Among other sensitive groups, *c. g.*, the pollens, animal emanations, foods, etc., there is a frequent benefit from the use of vaccines because of superimposed bacterial infection, which, if it does not produce sensitization of itself, prolongs or precipitates attacks by reason of the local and general changes which such infection induces. In the non-sensitive group the vaccines are less valuable. They are a distinct help, however—to wit, 40 per cent. relieved and 20 per cent. improved in the patients studied by Walker. An autogenous vaccine made from the sputum, or from an infected tooth, nasal sinus, etc., is preferable to a stock vaccine. The permanency of relief from vaccines depends upon the type of case in which they are used. In the straight bacterial cases it may be for a number of months. Second and third courses of vaccine therapy may at times be indicated, and our experience has coincided with that of Walker in that such secondary courses may be of more benefit than the first. In several instances under observation, an almost constant vaccine therapy seems necessary to keep the patients free from asthma.

The Advantages of Silver-Salvarsan in Syphilis.—Bakatel (*Chicago Medical Recorder*, June, 1921) states that as a result of these observations these opinions of silver-salvarsan have been formed:

1. It is better borne than any of the other arsphenamines, only seven reactions have come to the author's attention. Of these, four, two men and two women, were delayed between five to six hours after injection and consisted of chills and fever and did not occur again in the same patient. One, a woman, was angioneurotic in type and very mild; another, a woman, complained of headache and dizziness on leaving the table, a condition that speedily disappeared. The last, a man, who had not evacuated his bowels on the day of injection and had partaken of a heavy meal, showed fairly severe nitritoid symptoms after a concentrated injection in distilled water.

2. The clinical symptoms, particularly chan-

cre and mucous patches and condylomata, disappeared with great rapidity in most cases. Action on other cutaneous lesions was practically the same as that following arsphenamine and neoarsphenamine.

3. The product is almost immediately soluble in water, needs no alkalization and the quantity of the drug employed is very small.

The chemotherapeutic factor is large, while the burden of elimination is small on account of high efficiency.

5. The serologic results, as far as observed, are easily comparable with the other arsphenamines, both in primary and secondary lues. In tertiary types it may be preferable to utilize mercury in combination.

6. No cases of albuminuria were seen.

7. Many patients were able to return to their places of business from the hospital or office, altho this procedure is not to be recommended as routine practice.

8. Silver-salvarsan's use in the intraspinal treatment of neurosyphilis, while limited, has been eminently satisfactory and it would appear to offer a therapeutic agent of unusual value.

Pruritus Ani.—According to Drueck (*Chicago Medical Recorder*, June, 1921), syphilis occasionally produces a pruritus and eczema about the anus, but a thoro course of mercury and the iodides will remove it. If due to lithemia the salicylates and alkalies should be given freely. Anemia and tuberculosis are also rarely causative factors. If there is no apparent local cause alterative and tonics, such as arsenic, iron, cod liver oil, quinine, are often indicated, also nuxvomica for its tonic effect, both systemic and intestinal. The tonic value of outside exercises must be remembered and strongly impressed upon the patient.

Regard should be had for the clothing. Over heating of the body is to be avoided, and it is better, except in the very coldest of winter weather, to wear linen rather than wool next to the skin. As the itching is always worse in bed and while the patient is resting, a pajama night suit should be replaced by a cotton gown which is loose and does not touch the perineum. The pajamas, by fitting closely, increase the production of moisture and increase the chafing. Cotton sheets should be used on the bed and heavy quilts replaced by woolen blankets which latter permits a more even temperature and thus prevents sweating.

The diet is to be carefully regulated and coffee, alcohol, tobacco and even cocoa cut off as well as excesses of meats, spices, condiments, sugar and highly seasoned sauces or game. Eating between meals and overeating should be forbidden. When the gastric digestion is impaired, pepsin diastase or mineral acids may be needed.

Hyperesthesia of the Vesical Neck in Women.—Foote (*Urologic and Cutaneous Review*, November, 1920) calls attention to the fact that

while this condition is frequently observed, and its treatment is usually simple and effective, it receives comparatively little attention in our text-books. In his experience, Foote has found that good results follow gradual dilatation of the urethra every three or four days, with regulation of the diet, the use of cocaine in some cases before the dilatation when the hyperesthesia is extreme, and sedatives, preferably the bromides, for a few weeks, or perhaps during the time the treatment lasts. As these cases are usually neurotics and open to suggestion, it may be confidently expected that they will be relieved. Some cases relapse, but as a rule the results have been extremely gratifying.

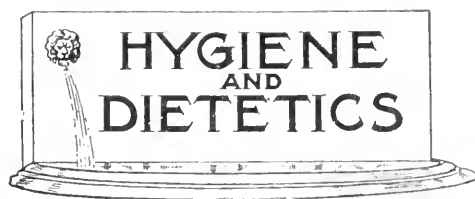
Cauterization of the neck of the bladder with silver nitrate is only indicated in a few intractable cases.

Kelly is skeptical as to the benefits of gradual dilatation. It is rarely necessary to resort to division of the urethra; this should be used only when everything else has failed. In some cases, especially where pain is a prominent symptom, the author has obtained relief by using the high-frequency current with one electrode in the bladder.

Vaccine Dosage in Acute Infections.—Sherman (*The Medical World*, August, 1921) says that in the treatment of extensive acute infections with high fever and toxic symptoms we find from experience that treatment may be started with full doses, usually 1 mil; that, as a rule, very little reaction develops either at the point of inoculation or constitutionally, and that inoculations may be made to advantage at one or two-day intervals, and, in extremely severe cases, even twice daily for several days. After the more acute symptoms have subsided, as shown by a reduction of temperature, and other indications of improvement have set in, the interval between inoculations should be extended to two or three days, and during convalescence to weekly intervals for several weeks.

When employing vaccines in the treatment of the less severe localized acute infections, where there is slight fever and very little constitutional symptoms, the initial dose should be smaller, because in such cases large doses are liable to produce marked reactions, but inoculations may be made to advantage at one or two-day intervals, while the dose is increased as indicated by the amount of reaction which develops from the previous inoculations.

In all acute infections, early treatment is of paramount importance; of greater importance than an exact bacterial diagnosis. Where delay in treatment would be entailed by procuring the exact vaccine indicated in a particular case and a mixed vaccine is at hand which contains as one of its constituents the microorganisms indicated in the case under treatment, such a vaccine should be employed until the one desired can be procured.



Dietetic Treatment of Arthritis.—Wright in his valuable paper read at the recent meeting of the N. Y. State Med. Society (abstract in *Medical Record*, May 21, 1921) said that diet was important in chronic arthritis and needless restriction of diet increased the disease. In the acute cases the diet was to be entirely different. In the chronic type one must maintain the patient's strength. Osler advised a full nitrogen diet. Pemberton found that meat could be ingested with benefit, but that there was a lowered sugar tolerance in proportion to the arthritic process. The blood sugar chemistry showed difficulty in handling carbohydrates. Some food must, therefore, be used to compensate for lack of carbohydrates. Fats must be substituted in the diet, in a proportion of 10 per cent. protein, 10 per cent. carbohydrates, 80 per cent. fats. The basal requirement of the patient must be found and weight maintained; 80 per cent. fat might be found high in some cases, but 70 per cent. could be well tolerated.

Fasting in Treatment of Diabetes.—Labbé (*Annales de Médecine*, July, 1921), as a result of painstaking study of the effect of fasting in the treatment of diabetics, concludes that in the cases without emaciation it allows the sugar content not only of the urine, but of the blood to be brought back to normal. But when there is denutrition, this cannot be realized. Even if the glycosuria and acidosis are arrested, the effect is transient and they soon return. This transient and provisional effect is gained at too great expense; the patient is not rendered more resistant, and the evolution of the disease is not checked. In two of his patients thus temporarily improved, he was surprised at the brutal way in which coma developed soon after. The fasting treatment with denutrition should be reserved for acute accidents. In the premonitory period of coma in attacks of acidosis, fasting need not be feared, for it always mitigates the acidosis. But it is useless to impose repeated periods of fasting on these patients. Fasting is rarely necessary in diabetes with denutrition, and it should always be rational, not a routine procedure, and should always be carefully supervised.

Creole Customs and Coffee Drinking.—From early colonial days, says Tichenor (*Western Med. Times*, October, 1921), either clinical observation or natural intuition formed the morning cup of black coffee (*coffee au lait*) habit among the Creoles, and when questioned why

they drunk it so strong, they will tell you so as to keep off malaria and heartburn (results of weak coffee). This custom may shock the coffee substitute faddist, or the manufacturer, but is really in accord with modern scientific views. Let us see. We class caffeine, the alkaloid of the coffee bean, in the same category with strychnia and other alkaloidal tonics. The adrenal glands are responsible, when stimulated by coffee, in bringing about certain circulatory and detoxication reactions, which are necessary to maintain health and to eliminate from the organism the poisons which irritated it.

The only adverse feature the author has ever noticed from this custom was the taking away the appetite for breakfast and detrimental effects to individuals who have adrenal insufficiency; and that it antagonizes the effectiveness of adrenal support, for reasons which are quite clear. Coffee stimulates the vital centers and the brain cortex, favors deeper respiratory movements, increases heart beat and urinary secretion. This warm, soothing, stimulating drink is especially applicable to warm and temperate climates, or when the secretions are sluggish and glandular affections are common.

The Nutritive Value of Yeast in Bread.—Hawk, Smith and Bergeim (*Am. Jour. of Physiology*, May, 1921) state that flour containing five per cent. of yeast powder makes a palatable bread, much more nutritious than ordinary bread. The yeast supplements both the water-soluble B and the protein content of wheat flour. Yeast is thus a nutrient constituent of bread, and any increase in its amount up to quantities far in excess of those ordinarily used will improve the food value of the product.

The Value of the Oyster.—An editorial writer in the *Medical Record* (Sept. 24, 1921) discusses Llaguet's article in the *Journal de Medecine* (May 25, 1921), in which he claims that the oyster is a stimulant to the stomach, a true stomachic, which can increase the flow of pepsin and HCl in those who are below par in this respect. It contains iodine, iron, phosphorus and lecithin, and the medical practitioners near the great oyster industry of Archachon prescribe them in habitual dyspepsia and tuberculosis. Oyster shell is also given in affections characterized by decalcification. The two great practical subjects in connection with oyster consumption are oyster poisoning and typhoid fever. In regard to the first named, there is no doubt that decomposed oysters can give rise to a form of ptomaine poisoning. But fresh living oysters cannot possibly give rise to poisoning (except as they are carriers) and it is simple enough to determine their freshness and viability. Oyster typhoid is a well-known fact and is combated either by flushing or irrigating the mollusks with disinfectants or by placing them in clean running water. The use of beds inaccessible to sewage is of course the ideal preventive.

NEWS NOTES AND ANNOUNCEMENTS

The First American Birth Control Conference.—The First American Birth Control Conference is to be held in New York City, November 11 to 13, 1921, at the Hotel Plaza. This promises to be the most important meeting in the history of the movement, and far-reaching results are anticipated. A large number of distinguished persons have signified their intention of attending the different sessions, especially the Mass Meeting to be held in the Town Hall, Sunday, November 13th, at 8 P. M.

Hiccough in Ancient History.—Aristophanes, the comic Athenian poet, had once a disturbing experience. At an important banquet, shortly before his turn came to deliver a speech, he was suddenly seized with an uncontrollable attack of hiccough. Eryximachus, his doctor, told him to hold his breath as long as possible, and, this failing, then to gargle his throat with water. Still the hiccough continued. At this juncture Eryximachus suggested tickling his nose with a feather. Aristophanes immediately began to sneeze; the rivalry of this reflex action disconcerted the hiccough, so the diaphragmatic disturbance ceased.

The Cripples of the Great War.—According to compilations by the Red Cross the known crippled, according to *La Presse Médicale*, number nearly 6,000,000. Of this number nearly one-half are furnished by France and Germany, the former leading the latter by a hundred thousand. Great Britain is third with well over a million, Italy fourth with over half a million, Poland fifth with 320,000, the United States sixth with nearly 250,000, while present day Czechoslovakia is seventh with 175,000. The Austria of today totals 164,000 and Jugoslavia has the same figure. Other figures are Canada with 88,000 (which, added to Great Britain, bring the grand total for that country up to a million and a quarter). The total for Roumania is 84,000 and that for Belgium 40,000. No figures are given for Russia or Bulgaria. These statistics, of course, give an imperfect idea of the total losses of the Teutons, as they are based wholly on postbellum geography. Apparently the countries which now represent ancient Austria furnish over half a million jointly, bringing the total of the Teuton armies to 2,000,000. The mutilated of Poland should be made up largely of former Russian soldiers.

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H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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Surgery and Radium.—The ultimate part that radium is to play in the cure of cancer cannot be determined at the present time. There appears to be a radical difference of opinion concerning its general and specific fields of usefulness. One is inclined to believe that the differences in point of view are due largely to personal preferences, varying experience, and different localizations of cancer in individual patients under treatment.

Dr. John B. Deaver of Philadelphia has attacked the value of radium, which he has condemned unhesitatingly. His surgical judgment, his interest in the progress of American surgery, his personal skill, and his radical point of view as to the necessity of surgery do not constitute him a fair and unbiased witness upon the subject. There can be little question that radium has demonstrated its value for the alleviation and cure of many superficial neoplasms. The attitudes of men like Kelly and Abbé, John J. Clark and other capable surgeons, represent a higher degree of open-mindedness, toleration and, incidentally, willingness to accept whatever advantages radium possesses.

Only the fanatics would dare to assert radium to be a specific for cancer, and their blind faith would immediately be offset by the judicial opinion of the individual workers with radium who have preserved their spirit of fair investigation and have approached the problem in a truly scientific

spirit. It is equally fanatical to condemn without qualification the demonstrated effectiveness of radium therapy as reported by competent and reliable students of the subject. Whether or no radium is to be utilized before or after surgical operations or in both instances has not been determined. Whether radium will ever supplant surgery is beyond actual reliable conjecture. It is undeniable, however, that radium is a promising element in the cure of cancer, and that surgery is also maintaining its position in the same field, but is fortunately extending over into the field of cancer prevention.

Statements such as those made by Dr. Deaver are disadvantageous for public morale. His position of authority tends to thwart the attitude of hopefulness of results from radium therapy for many persons to whom it is recommended as of probable service. A fair recognition by Dr. Deaver of the part played by radium would permit him to re-phrase his *pronunciamento* in a more conservative and rational form. Palliation and cure of cancer by surgery have by no means achieved perfection, and the surgical results probably will stand no closer scrutiny than the end results of equally carefully performed treatment with radium and its emanations.

The medical profession too frequently errs on the side of scepticism that is so profound as to become blind and intolerant. The surgeon's attitude towards radium

should be one of interest, sane criticism, careful observation and thoughtful comparative judgments. The results of radium therapy will improve with the improvement of technic and knowledge concerning its better and safer employment. If the surgeons and radio-therapists will work in closer harmony, the benefits to suffering mankind will be achieved more quickly.

Visiting Teachers.—The problem of visiting teachers, on first thought, does not appear to be intimately related with medical service. The brief report on "The Visiting Teacher in the United States," issued by the Public Education of the City of New York, should indicate the helpfulness of this type of public servant, whose services have already been recognized in fifteen states of the Union. The visiting teacher is a home and school coordinator and a clearing house for information and effort in the better adjustment of school children. Her work requires an understanding of all the types of special classes, from those for mental defectives and neurotics, to the special classes for the deaf and blind, the crippled, the cardiacs and epileptics, as well as the other special auxiliary classes of a hygienic and therapeutic nature.

Her problems arise from maladjustments and poor scholarships, adverse home conditions, misconduct and impaired physical condition. She is as interested in mental precocity as in mental subnormality. Irregular attendance, with its underlying reasons is no more important than misconduct in or out of the school. The physical and mental examinations are part of her corrective measures. In her general educational and social training, there is required considerable specialization in psy-

chology, sociology, dietetics, biology, mental hygiene, mental abnormalities and mental testing, general physical hygiene and a reasonable acquaintance with the practical phases of medicine.

There is every reason to believe that this new type of school worker will be of considerable assistance, and will require the aid of physicians and psychiatrists in the accomplishment of the adjustment of many who are at present school failures for one or more of various reasons.

The educational system has become more conscious of the need of guidance in the constructive aid of school children. It is doubtful whether the medical profession is adequately alive to the advantages to be derived thru practical cooperation with trained teachers, particularly those who have specialized in the management of abnormal and pathologic types of children. There is little question but that the teacher may be utilized advantageously as a therapeutic agent in many instances, and on a still larger number of occasions as a factor in the prevention of serious deviations from normal conduct and mental maladjustment.

Ventilation and Colds.—The increase of respiratory affections during the cold season is not thoroly understood. The part played by actual climatic conditions, as opposed to indoor temperature and humidity, has not been demonstrated with any degree of conviction. G. T. Palmer, in the September and October numbers of the *Journal of Laboratory and Clinical Medicine*, has presented "A Study of Ventilation, Weather and the Common Cold." His studies are based upon the prevalence of respiratory diseases among school children and the association with different forms of school ventilation and seasonal changes in weather.

New York City schools were the subjects of the investigation. The general types of ventilation included window and gravity exhaust, plenum and exhaust fans, and plenum fan and gravity exhaust.

It is rather significant that schools located in congested districts and "attended by pupils of inferior economic and sanitary status had less illness than those located in the better class neighborhoods." The question naturally arises as to whether the extra care that follows as a result of family prosperity tends to undermine the health of potentials of the school children with homes possessing unusual environmental and social conditions. This, of course, might be interpreted as meaning that such children are subjected to abnormal conditions of temperature and humidity in their homes, and hence lack the "hardening" that results from varying degrees of exposure to cold and, therefore, are more sensitive to environmental changes.

More significant among the conclusions is the statement that "there appears to be something inherent in the indirect method of ventilating school rooms by means of forced draught and gravity exhaust that is productive of respiratory affections, something which is not present in rooms ventilated with windows and gravity exhaust." These elements have not been determined satisfactorily. Temperature, humidity, rate of air flow and stability of room atmosphere conditions may all serve as individual varying factors affecting health favorably or adversely. With the millions of dollars that have been spent upon ventilating equipment, there is an economic note in the fact that window ventilation has competed most favorably from a health standpoint with the most elaborate ventilation systems requiring fan and duct equipment. This statement refers entirely to the problem of ven-

tilating school rooms. Obviously, natural ventilation has its limitation, and thus is not applicable nor practicable for rooms that seat several hundred persons at one time. This condition, however, does not obtain in the school room.

Coolness and air motion are vital factors in promoting the comfort, health and efficiency of school children and their teachers. Further, in the general distribution of respiratory disease among school children, the school ventilation is of less moment than the external weather condition. In so far as the alteration of the indoor atmosphere may serve to conserve the vitality of school children, the problem assumes considerable importance. If natural ventilation accomplishes as favorable results as the costly installation of ventilating apparatus, there has been a tremendous waste of public moneys which might better have been devoted to other methods of caring for the health of school children. There is insufficient evidence at the present time to indicate what future school policies should be; and sanitarians are by no means agreed as to the full values of the various types of ventilation in their actual effect upon the vital capacity and reserves of school children. The open air classes have indicated their tremendous advantages for certain types of children who require the stimulation of fresh air, lower temperatures and air in motion without the existence of draughts. If, as appears reasonable, natural ventilation suffices to promote the health of school children, there is no further excuse for impairing the atmosphere of school rooms thru the unnecessary expenditure of funds for useless ventilating systems.

Further study is required by public health investigators to secure more complete and accurate data to determine in how far

the unfavorable effects of outdoor weather conditions may be offset or mitigated by the control of the indoor atmosphere. This is a particularly important problem that calls for solution in view of the tremendous morbidity from respiratory diseases.

Hesitation and Progress.—The tendency of medical organizations to cast aside opportunities for constructive efforts frequently is discouraging. Special committees work for long periods of time and formulate excellent reports which are then presented to the house of delegates or the general membership. After an interval of discussion, during which individual physicians present their views, which may or may not be the result of thoughtful study, the report of the committee is amended beyond recognition, referred back to the committee, or laid upon the table. The usual report of a committee dealing with problems that involve no questionable facts is accepted without serious discussion.

In *Minnesota Medicine*, October, 1921, one notes an excellent illustration in the handling of the Report of a Committee on Social Insurance. A brief but constructive report, was offered which urged that "Thought and study be given by the profession to the problem of social and industrial medicine." Three specific recommendations were made with the following preamble:

"As the problem is one for study and one in which the entire profession is concerned and should be informed, and as the Medical School of the University of Minnesota is the teaching and research medical institution of the state, we recommend and strongly urge:

"(1) That the Minnesota Medical Association urge its members to give the subject of social insurance thought and study,

as we believe some form of social or industrial insurance is inevitably to be widely tried thruout the country. We believe that such study is necessary as a foundation for the settlement of these problems when they present themselves before the legislative bodies.

"(2) We urge that the Association recommend to the Board of Regents of the University of Minnesota that a course of courses on industrial medicine be added to the curriculum of the school. We believe that the medical student of today will have an important part in the solution of these problems and deem it just that he be taught concerning the phases of industrial medicine as it exists today and thus be better prepared to meet the problems as they arise.

"(3) We recommend that a copy of this report be sent to the President of the University of Minnesota, to the Board of Regents and to the Dean of the Medical School."

It must be admitted that these three items are constructive in character. After the motion to accept the report, there was an amendment to strike out the portion of the report which recommends the teaching of industrial insurance in the university. The amendment was accepted. Then followed discussion by one man who presented his own opinions upon the subject of social insurance and pronounced "This sort of legislation absolutely pernicious, but we will have to meet it in the near future." He opposed the recommendations that "The University of Minnesota should be requested to take up the subject of social insurance or investigate it." After a re-reading of the recommendations, the committee was thanked for its valuable report and it was then laid upon the table.

This situation is not peculiar to Minnesota nor to any particular state medical society. It is a more or less characteristic attitude of approach to problems of public policy that constantly leaves the profession behind rather than among the leaders in thought

concerning large public questions dealing with their own welfare. In this instance especially, a forward step was proposed, an intelligent investigation and a form of education that would serve as a background for thoughtful opinions. Nevertheless, the report was laid upon the table.

Constant shutting of the door to the entrance of new ideas is not the means of controlling them. Welcoming, guiding, accepting and directing modern opinion is far more efficacious than rejection, irrational opposition and unalterative refusal to view more than one side of the question. The entire history of social legislation in this country indicates that laying reports upon the table is a blind and hazardous method of approach and must give way to one in which intellectual understanding replaces emotional reactions. It is impossible, of course, to divorce sentiment and professional feeling from participation in the consideration of our problems dealing with professional welfare and progress. On the other hand, a full knowledge is to be encouraged, and dispassionate judgment carries greater conviction than rage or impassioned resentment. It is time that the laying of reports upon the table gave way to a deeper study and investigation of their merits with a final recording of opinion upon the acceptability of the report in the light of the information available for those voting upon the report.

Tuberculosis and Quackery.—The Framingham Community Health and Tuberculosis Demonstration was designed primarily to indicate how tuberculosis might be controlled thru adequate medical and social organization. The basis of the plan lies in

the examination of all persons in order to discover the presence of the disease. By careful cooperation with the physicians of the city, a comparatively large number of cases of arrested tuberculosis were discovered. The size of the community and the small number of cases of tuberculosis make general conclusions rather difficult.

In the *Journal of the American Medical Association*, August 21, 1921, appeared an article detailing some of the medical results of the experiment. It points out in its summary some cogent facts which merit reflection. "The chief factors that seem to be responsible for the late discovery of tuberculosis cases which give to the community every year advanced and dying patients that have not been known or treated for tuberculosis in the early stages of the disease are: The recluse type, which seems to be the main type, never receiving any medical attention; failure of patients to seek medical advice early, or if they do, not to give the physician sufficient time to make a diagnosis; occasional failure of physicians to detect disease early; failure of both physician and patient to use all of the services at their command for early diagnosis of tuberculous disease; lack of complete annual medical examination, and lack of annual factory and school examinations." This brief summary represents conditions that exist in all communities and represent a serious part of the tuberculosis problem. From a practical standpoint, it is doubtful whether any machinery can be devised to meet all these situations until communal education is on such a plane that the tuberculosis problem is recognized by all individuals as a real peril.

The difficulties, however, are complicated by the existence of the rapidly growing group of religious and pseudo-scientific cults

which deny the existence of disease or attribute its causation to variations in structural anatomy. All efforts of the medical profession for the complete control of communicable diseases, including tuberculosis, are hampered by the counter-opinions of the charlatans and quacks, who deny the existence of the scientific facts which the long history of scientific investigation has established. It would seem as tho health departments and organizations for the control of tuberculosis would take more active steps to eliminate the activities of the various cults which are endangering public health. While it is true that educational propaganda and medico-social organization will continue to decrease the morbidity and mortality from tuberculosis, the irreducible minimum cannot be reached while there continues to exist a group in the population which is insidiously and indirectly undermining the confidence of considerable proportions of the public in the benefits of complete medical examinations, bacteriologic diagnoses and rational therapeutics.

A recent advertisement is headed, "Tuberculosis! Get well at home in 10 days." Why the publication of an advertisement of this character is countenanced or permitted is beyond understanding. It appears in a paper of wide circulation and certainly is fraudulent in character. Knowledge concerning the Framingham Experiment has reached certain small groups of medical men whose opinions concerning its general results and advantages have not reached as large a group of persons as would read the single advertisement, which in spirit counteracts much that the experiment would convey to intelligent persons. Warfare against tuberculosis must include the prevention of dishonest advertisement and the exploitation of the public thru heinous

promises of unscrupulous purveyors of alleged cures.

The results of constant attacks upon the tuberculosis problem are gratifying and there is every evidence that another decade will bring with it a greater decline in the morbidity rate. It is incumbent upon the medical profession to attack more vigorously the disreputable elements in the community that utilize fraudulent methods at every opportunity. The truth eventually will prevail, but constant vigilance is requisite to overcome and destroy the inimical forces that seek to take advantage of those afflicted with the disease or those who believe themselves to be suffering from symptoms of an indefinite character, but resembling the advertised descriptions of incipient tuberculosis. The National Committee for the Prevention of Tuberculosis, working in harmony with medical organizations, should prove powerful enough to wage war successfully upon the common enemy. Public health demands a more assertive policy against those who present obstacles to modern methods of combating tuberculosis.

Minimum Wage Laws.—Minimum wage laws are considered part of the legal and economic organization of society. As a matter of fact, the upholding of minimum wage laws by courts has been a declaration of their validity as an exercise of the police power of the state, that is to say, a provision to promote general welfare.

In *Bulletin 285 of the United States Bureau of Labor Statistics*, one learns that "The commissions charged with the administration of the laws are designated as welfare commissions in five states; and the maintenance of health and welfare is said

to be the end to be aimed at in the enactment and enforcement of the laws."

Decisions of the Supreme Court of the United States have established a precedent in pronouncing the necessity for safeguarding the welfare of female employees. The basis of this legal judgment lies in the potential maternal functions of women, which must be conserved for the sake of posterity and the general communal welfare. It is for this reason, probably, that minimum wage laws in the United States have been generally applicable to women rather than to males. The basis of physical structure and function would not be applicable to the masculine employees and this distinction has been noted in various decisions. On the other hand, the principle of protecting employees against injurious industrial employment has been applied to workers in mines, caissons, smelters, aniline workers, etc., on the ground of a public interest in the health of male citizens. The general interest in a living wage is manifested in private and public trade agreements which have entered in to a large variety of industries.

Various states have made investigations, which indicate that a considerable percentage of workers in low skilled occupations do not receive adequate wages to sustain families independently, nor to support their families properly. In the words of the Director of the New York Investigation, 1913-14, "This situation of a great multitude of underpaid working people has a direct bearing upon the growth of poverty, vice and degeneracy thruout the community." The Massachusetts Minimum Wage Commission of 1912 believed that minimum wage legislation "Would promote the general welfare of the state because it would tend to protect the women workers, and particularly the younger women workers,

from the economic distress that leads to impaired health and inefficiency."

These points of view indicate that minimum wage laws are within the general subject-matter that should be recognized by the medical profession. The existence of minimum wage laws aims not merely to provide individuals and families with the necessary means to secure more adequate food, clothing and shelter—thus increasing their physical well-being—but to enable them to secure medical attendance more properly in event of illness. It tends to lower the altogether too large group of the public, dependent upon dispensary service. The economic basis of health is of considerable importance when one realizes the high ratio of physical defect and handicap, of malnutrition, tuberculosis and orthopedic conditions that are found among those at or below an income grade that is incompatible with a standard of living that is protective of health and comfort.

At this particular time, when there is a general tendency towards the reduction of wages, it seems desirable to bear in mind the medical aspects of wages. Unfortunately, there has been no careful study of the health and welfare conditions in the states and industries with minimum wage laws to indicate the results of their institution. It would be helpful to know in how far minimum wage laws have functioned as a factor in advancing the health and welfare of the groups they were designed to protect. In the absence of such data, arguments for such laws must be based upon an appeal to reason, supported by the demonstrated relative high proportions of disease in families belonging to the low income groups, as compared with the more fortunate families with higher incomes, and particularly those whose annual financial re-

turns are well above two thousand dollars a year. One cannot remove from the subject of industrial hygiene the problem of wages. The low wage constitutes an industrial hazard.

It seems desirable, therefore, that medical organizations should give some time and place to the discussion of wages and minimum wage laws in relation to the current problems of medicine. Low wages in families are responsible for much of the undernourishment, inadequate clothing, faulty housing, familial anxiety, crime, child labor and the exploitation of individuals that result in lowered vitality and diminished efficiency. Whatever undermines or lowers the stamina of individuals and families must be a pronounced factor in diminishing the sum total of public health.

Preventing Cancer.—In the midst of the fear of cancerophobia, resultant upon anti-cancer propaganda, one must pause for re-assurance as to the advantages that arise from the cautiousness that may take the place of essential fear. In the *Journal of the American Medical Association*, October 29, 1921, J. C. Bloodgood discusses Cancer of the Tongue: A Preventable Disease. In one paragraph he states that 105 persons presenting benign lesions of the tongue had sought advice because of reading "Something in the daily press or in magazines, or heard a lecture about the danger of cancer developing in an innocent, painless area of irritation in the mouth." This appreciation of the importance of care is not to be regarded as a real phobia, but as an intelligent endeavor to gain sound advice and to secure such prophylactic attention as may be admitted necessary. No less significant is the fact that early malignant conditions have presented opportunities for

operation in far greater number. During the decade 1910-1920, for example, in Bloodgood's experience, only 22% were to be regarded as early malignant lesions, while during 1921, 60% were in this more satisfactory curable state. In his own experience, from 1889 to date, Bloodgood affirms that hopeless and inoperable cancers of the tongue show a steady decrease. Furthermore, he declares that "Patients came for surgical treatment earlier after the beginning of the malignant disease, thru the education of the public and the profession." The more satisfactory expression of his opinion lies in the statement that the number of operable cases has been increased thru educational propaganda from 53% to 80%.

The emphasis lies in the warning character of certain definite local lesions which are to be regarded at least as potentially pre-cancerous lesions. These are leucoplakia, bad teeth, areas of irritation, ulcers, syphilitic gummata, warts, fibromata and smoker's burns. He properly stresses the necessity of recognition by the public and the profession of the significance of these lesions with a view to such treatment as will lessen the likelihood of the development of cancer upon their sites. One paragraph of his conclusion deserves particular consideration: "The guiding rule should be not only the early recognition of cancer of the tongue, but the recognition and appropriate treatment of the benign lesions which precede cancer by months or years, and the recognition of the causes of these lesions—tobacco and irritating teeth."

If such marked gains in the control of cancer of the tongue are obtainable and capable of statistical demonstration, there is every encouragement to believe that, irrespective of the etiologic factor, some degree of control of cancer is already in sight.

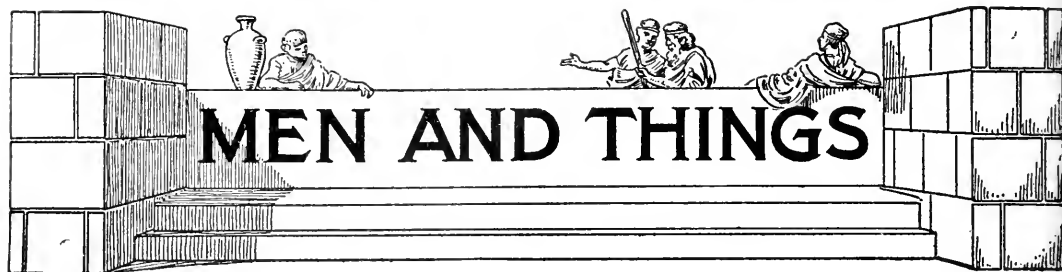
For many years, malaria was under some degree of control before the discovery of the plasmodium. The advantage of curative and preventive methods in the management of various diseases has frequently preceded the determination of the pathologic biology. Our lack of knowledge concerning the causative agent of cancer should serve as a stimulus to recognize those conditions in which the unknown cause is most likely to flourish. The removal or prevention of such benign lesions that may serve as fertile soil for cancer, clearly is indicated. This advantage becomes possible only when the public and the profession are alive to its importance and strive for its accomplishment. There is more to be gained thru efforts in preventing cancer than in acrimonious discussions as to the relative advantages or disadvantages of numerous proposed curative measures.

The Reduction of Accidents.—The benefits of attention to the problems of industrial accidents are particularly manifest in the tabulations of frequency rates and accident severity rates. In the *Monthly Labor Review*, October, 1921, appears an exceedingly illuminating paper on the "Accident Frequency and Severity Rates for the Iron and Steel Industry and Its Principal Department, 1907-1920," by L. W. Chaney. The starting point is 1907 because it represents a period when efforts for safety in the industry had scarcely been started. The accident frequency rate (cases per million hours exposure) during the year 1907 totaled 80.8; the deaths were 0.7; permanent disability 1.3; and temporary disability 78.8. The rates immediately began to decrease with the institution of safety appliances, greater care in the adjustment of em-

ployees to jobs, the posting of signs, the issuing of bulletins and the campaigning for more caution. During the great war period, 1915-1919, the total accident frequency rate was only 41.6, while in 1920 it was reduced to 36.8, with deaths 0.2, permanent disability 0.9, temporary disability 35.6. The evident improvement in conditions requires no comment.

Consideration of the accident severity rates (days lost per thousand hours exposure) demonstrates a very valuable moderation in the types of injuries that occurred. During 1907, and the figures on this are so small that the rates are probably not perfectly typical, but are certainly not too large, deaths were 4.4, permanent disability 1.7, temporary disability 1.1, with a total accident severity rate of 7.2. This is in glaring contrast with the figures for the war period of 1915-1919—deaths 2.2, permanent disability 0.8, temporary disability 0.6, with a total accident severity rate of 3.6. The year 1920 evidenced a still further reduction of the accident severity rate—deaths 1.5, permanent disability 0.8, temporary disability 0.4, with a total of 2.7.

The interpretation of figures of this character requires few words. Facts speak for themselves. By the application of intelligent, protective, individual hygiene and the utilization of safety appliances and the emphasis at all points upon the meaning and purpose of the safety first movement, there has been obtained a gratifying reduction of more than 50% in the accident frequency rates, and more than 66% in the accident severity rates. If the rates are visualized in terms of human beings, one can grasp the tremendous saving of human suffering and anxiety, the degree of prevention of waste in man power, and the advantageous conservation of life and limb in the iron and steel industry.



The Chemical Formula for Marriage.—

The futility of all past efforts to cope with and understand the delicate problem of marriage stands exposed with the revelation that marriage, which has always been viewed in the light of a union springing from a mutuality of spiritual, financial, social or physical interests, is merely a fusion of chemical components, and that marriage is successful only if this fusion is successful. Humanity, according to this theory, is divided into two main classes: Oxygen people and nitrogen people. The marriage of two people of the same chemical composition is fatal. The classic illustration of this is the failure of the marriage of Mr. Lou Tellegen and Miss Geraldine Farrar. Both these fine dynamic personalities, say the proponents of the latest theory, were oxygen people. An unhappy issue of their union was inevitable. Mr. Tellegen should have married a nice, placid nitrogen girl. Miss Farrar should have chosen a meek, nitrogen man. The mistake both made was that, pursuing the mistaken, sentimental traditions governing marriage, they ignored the immutable laws of chemistry. If the new philosophy (or should one say chemistry?) of marriage takes hold of the popular fancy, then the whole process of courtship and marriage will be completely altered. A youth, consulting his beloved's parents, will not ask for her hand, but for her chemical formula. Couples applying for a license at City Hall will be obliged to show not their birth certificates, but their chemical constitutions. And the delicate period of courtship will have to be governed by many minute considerations. Thus, the oxygen lover would err greatly if he invited his sweetheart, of unquestioned nitrogen proclivities, to take a stroll in the park on a fine, moonlit night, or to spend an idle afternoon with him in the country. Such a step might be fatal to their future,

for the lady, exposed to the danger of inhibiting the oxygen-laden atmosphere of country or park, might completely lose her nitrogenous character. The courtship of such a couple, to assure its ultimate success, would have to take place, if the oxygen lover knows what is good for him, in a stuffy parlor, the oxygen content of which is at a minimum. Even after marriage, this vigilance will have to be closely observed. A nitrogen wife will have to observe the strictest care in the diet of her oxygen husband if she wishes to retain him, carefully avoiding, for example, all nitrogenous foods as highly inimical to her happiness. And in the matter of children, the situation is even more complicated. Oxygen and nitrogen combined form laughing gas, just as oxygen and hydrogen unite to make water. Will the offspring of a nitrogen wife and an oxygen husband be nitrous oxide or laughing babies? And if that person of still greater volatility, the hydrogen individual, joins in the bonds of wedlock an oxygen spouse, will their children be of an aqueous nature and prone to stay on the "water wagon"? Here is a pretty problem in eugenic chemistry that the prohibitionists will do well to look into. Possibly making the Eighteenth Amendment safe for posterity is really a question of breeding. The new philosophy casts no light on these important matters. In fact, the new philosophy presents a source of concern to lovers which is burdened more with shadow than with light, for its champions are divided among themselves. Some say that a nitrogen woman should seek an oxygen man, but a woman champion of the new theory, being first a woman and then a philosopher, warns her nitrogen sisters against the oxygen man. He is so vital and volatile that his faithfulness is a matter of great doubt. What is a poor nitrogen woman to do in such a dilemma? The

path of chemical marriage is not strewn with roses, it would seem.

Ailing Mother Earth.—The doctors attending that long-ailing patient, Mother Earth, have diagnosed her case at last and pronounced her suffering from "internal fever." To this fever is ascribed the unusual drought of the past summer thruout the world and the numerous earth tremblings, quakes and other terrestrial disorders. And the doctors add that the whole climate of the world may be undergoing a radical change, the striking conditions of the past year being merely an abrupt stage in the slow drying-up process of the earth. Confirming the uneasiness of her doctors, Mother Earth's oculists, the astronomers, have likewise observed disorders in the aged patient's firmament. The moon, it is reported, is not only slightly out of her normal course, but some seconds ahead of her schedule. Something is distinctly wrong with our universe. "Internal fever" is a vague enough diagnosis and explains very little. In view of the non-committal and uninforming attitude of the experts, one guess is as interesting as another. The theory that the earth was originally a hot, semi-liquid, revolving mass, which gradually cooled on its surface and that the drying and cooling process will continue has been accepted as scientifically accurate. Nine adult male Americans will agree, on other than scientific evidence, that the drying-up process in America, at any rate, has been very much in evidence since a not very remote July first. But a really interesting theory, advanced by amateur scientists with perhaps a stronger inclination toward drama than toward science, offers a diverting solution. The earth is delicately balanced in its position and in its course by magnetic influences which are very minutely adjusted. How much of a shock would it require to disturb this balance? Just a little, say the amateur scientists. This shock was produced by the war; not the shock of conflict and explosions, but the disturbance of the metallic distribution which has prevailed on the earth from time immemorial. To what extent has this disturbance affected the magnetic balance of the sphere? For four years, the whole world was busy digging into the bowels of the earth for its metal

treasure, gathering this treasure and dumping it all at one locality of comparatively small area—the fighting front. The mines of the world yielded their product and delivered it all to a limited section of Europe. This section of Europe, the battle-line between Germany and France, the battle-line between Germany and Russia, is now richer in metallic content than it ever was before. Compared with the earth's bulk, the change may not be appreciable, but it, nevertheless, mounts into millions of tons. This transfer of metallic weight from many scattered areas to a single locality, the amateur scientists affirm, however, may be sufficient to alter the finely adjusted balance of the earth, its magnetic relationship to the rest of the universe and the forces controlling its movements. As remarked above, one guess is as interesting as another. This one assuredly has an engaging element which may not be justified scientifically, but has, nevertheless, recommended itself to the uninformed laity as highly provocative of reflection.

The Short and Long of It.—The men have had their revolution and now the women are having theirs. Like the revolution to which this country owes its independence, it is a rebellion against a foreign tyranny—the tyranny of Paris fashions. The Czar of the Scissors, ruling in his palace in the rue de la Paix, has issued an edict restoring the short skirt of the past season to a more decorous (and more profitable) length. But the American woman, like her Colonial forefathers, has had a taste of freedom (what Heywood Broun would undoubtedly call the Freedom of the Knees), and it was not to be expected that she would go back to the restraints and limitations of the former régime. She has, in fact, hurled defiance at the foreign tyrant, and the war is on. How closely the women's revolt will parallel that of their forefathers, it is too early to predict. There will be incidents, of course, which history will record. There may be, for instance, a Boston Knee Party, in which importations will be dumped into the sea. But in matter of length, at any rate, it is safe to say that the present revolt will be of shorter duration. The brevity of the war and its happy issue are assured not only

by the unanimity of opinion among the women of America, but by the wholehearted support which the men will offer them. This support is all the more effective and potent as it is based on esthetic grounds. The common reason given by men for their condemnation of the long skirt is that it is unhealthful, unhygienic and, some of the more honest ones add, ugly. They revive pictures of our women of a generation ago who promenaded the fashionable highways collecting a city's germs in the train of their skirts, even the most fastidious women being the victims of what then was considered the fashion and none daring to rebel against it. But the objection to the long skirt by men on hygienic grounds is only a pretext for an awakening of esthetic sensibilities, a consciousness of beauty revealed, which they are not anxious to avow. The vogue of the short skirt, let it be frankly owned, only confirmed the opinion of American men that their women had the finest ankles in the world, and now that these ankles have been exposed to their daily scrutiny they will not readily permit foreign tyranny to cast a cloak or, more accurately, a skirt, over such universal beauty.

The women themselves, it may well be, are not altogether unaware of their supremacy in this respect, and their revolt may originate in no small measure in their vanity. But it is a vanity well justified. Women rarely err when it is a question of personal beauty, and the French women, in accepting so readily the return to long skirts, no doubt acted on the realization that in this instance they had more to hide than to reveal. Anyone who has been in Paris during the vogue of the short skirt will confirm their excellent judgment. Beauty may or may not be skin deep, but in Paris it certainly is not ankle high. The short skirt originated in France as a war measure, tending toward economy. Perhaps it helped the French to win the war, but it surely contributed very little to the winning of men. The French are not an athletic, out-of-door race and the ankles of their women show it. The handsomest limbs in the world belong to Swiss women, mountain climbers practically from their childhood. American women are a close second. English women, who rather overdo exercise, incline to solidity without compensating grace. It is natural, then, that the American girl should resist

any effort to conceal one of her chief claims to superiority. The French girl, with fine judgment, has decided that the better part of valor is to take to cover. Of course, most of the protests voiced here so volubly have been on the ground that the short skirt is more sanitary. Well, that is as good a pretext as any.

The Sense of Humor In School Children.—Life at best is a constant struggle or conflict with the conditions that surround us. Few there are who do not carry heavy burdens, or who are not continually being confronted by disappointments and annoyances that would make our daily existence barren, indeed, but for the sense of humor that the majority of normal people fortunately possess. It is evident, therefore, that more thought should be given in our homes and schools to the cultivation in our children of this all-important mental faculty. There is a hygienic side to this matter, also, for any faculty of the mind that can counteract or prevent mental depression, with its essential effect on bodily functions, must make for health.

In this connection, it is interesting to note that Dr. Kimmins of London, recently has carried out an investigation of the sense of humor in school children, the results of which he gave in a paper read at the recent meeting of the British Medical Association held in Edinburgh. Doctor Kimmins said, according to the London correspondent of the *Medical Record*, that among the many interesting facts deduced from his investigations, he was especially impressed with the extraordinary appeal of Charlie Chaplin to young children. The reason for that was because there was not only continual movement and change of action, but also that Chaplin was breaking all social conventions and doing the very things that children were forbidden to do. Doctor Kimmins went on to explain that his object in carrying out an investigation was to discover the measure of the material which, at different ages, caused amusement and provoked laughter. As to the chief causes of laughter, experts were not in agreement. Bergson maintained that the comic was that side of a person which revealed his likeness to a thing and conveyed the impression of pure mechanism. The corrective was laughter. Absent-mindedness he described

as one of the great watersheds of laughter, and said it was the part of laughter to reprove absent-mindedness. Freud in his "Wit and the Unconscious" had elaborated the idea of pleasure being derived from the economy of psychic expenditure. Word pleasure and pleasure in nonsense, Freud said, were a relief from critical reasoning. Man was an untiring pleasure-seeker. Under the influence of alcohol a man became a child again and was freed from logical inhibition. Sidis held that laughter never came from economy, but from superabundance of energy. Another authority declared that laughter bound us to the childhood of the race. There was no difference of opinion as to the physiologic value of laughter. Doctor Kimmins said that cases of puns perpetrated by children under seven years of age were rare, while many of the reported stories were due to misunderstanding of the words used. As an illustration he quoted the classic instance reported by Sir Joshua Fitch, who asked some small children to write the Lord's Prayer and afterward came across such mistakes as "Harold be Thy name," "Lead us not into Thames Station." The records of children of nine years of age showed a very great change. Boys and girls at this period were particularly interested in funny stories and jokes; riddles and play upon words maintained their position at that age, but the popularity of the misfortunes of others as a source of merriment was ceasing to exist and soon disappeared entirely. At ten years of age children were very keen on books of jokes and comic papers. The affairs of the classroom were found to afford suitable material for the gratification of the sense of humor. The period between eleven and thirteen years of age appeared to mark quite clearly the parting of the ways, and a sense of humor seemed to disappear entirely. The funny story was of a far more personal nature, the element of superiority ran riot, and children delighted in extravagant stories of stupidity concerned with adults. Stories involving a smart but often rude retort appealed at this age, and to illustrate this point the speaker mentioned the teacher who told a small boy that when Lloyd George was at his age he was head of the school, to which the boy replied that when Lloyd George was the teacher's age he was Prime Minister. In the period from fourteen to fifteen years of age it was more

difficult to generalize. There appeared to be, however, very clear evidence that the revival of humor at thirteen, in the case of girls, and fourteen, in the case of boys, was well maintained. Doctor Kimmins concluded by saying that the opinion was held by many educators that it was possible to increase the sense of humor in the ordinary intelligent child, and experiments had been carried out which, it was claimed, had been crowned with success. The subject was worthy of further investigation. A keen sense of humor was a valuable possession and added much to the joy of life. Laughter was a great relaxation from the conventions of every-day life, and if the springs of laughter were pure they should be encouraged.

What Is the Status of Zone Therapy?—

The history of medicine demonstrates that the truth will survive. It may take many years to bring about the realization of certain propositions. But, ultimately, those worth while will become as current gold in medical coinage—and be gladly taken at par by those who learn their basic value.

This was the history of antiseptics—al tho it might be argued that Semmelweis died in a mad house as a result of the criticisms his proposition inspired. He gave to the world one of mankind's greatest blessings, but his only reward was ridicule and calumny.

This was the early history of anesthesia—one of the first introducers of which also ended his days in an asylum. Only this last year did the world see fit to give proper credit to Morton, for the boon he gave to humanity. This is the history of practically every scientific advance made in medicine or surgery.

First, intolerance of the bare idea and vicious persecution of its author. *Second*, a mild flirtatious interest. And *third*, a hearty embrace and a strong insistence on the fact that "I always told you so"; or "I never believed anything different."

History will probably repeat itself in respect to zone or pressure therapy, concerning which Dr. Fitzgerald has written in this issue.

Zone therapy may or may not prove to be a great discovery. The writer has not had sufficient experience to express a definite opinion. There seems to be some great physiologic truths involved in the phenom-

ena thus far brought forward. Certainly no one can study these without feeling with Hamlet, "There are more things in heaven and earth, Horatio, than your philosophy hath dreamed of."

And concerning Dr. William H. Fitzgerald himself, the present writer can testify in no uncertain way as to his honor, integrity and high principles, for he was a fellow student with Fitzgerald at the University of Vermont and knows the fine scholarly mind he has.

The writer also knows of the creditable work done later by Fitzgerald at the Boston City Hospital. He knows of the later appointment of Fitzgerald as assistant to Professor Politzer and Professor Otto Chiari in Vienna—no small honor for an "auslander."

He knows of the two years' subsequent—excellent work as head of the Nose and Throat Division of Guy's Hospital, London. He knows of Dr. Fitzgerald's honorable career as a skilful and accomplished operator, one of the cleanest and most capable men in the practice of medicine today, a man who holds his service to mankind as a trust.

And knowing all this, when Fitzgerald says, in serious medical journals and before serious scientific physicians in all parts of the country that he is daily accomplishing certain effects by means of pressure over certain nerve centers, or certain eminences in definite zones, he believes that these statements and the data presented deserve the most serious and open-minded consideration—not hasty and contemptuous condemnation because undreamed of in our philosophy.

If it is true that Dr. Fitzgerald is curing a large majority of goiter cases without a cutting operation, we should investigate the facts and give our best thought to the results he is obtaining.

If there is also evidence to show that asthma, croup, what has been diagnosed as laryngeal tuberculosis, certain growths and almost every form of pain or ache are often greatly relieved and influenced to a marked degree, by certain applications of direct or remote pressure, what excuse can we offer for ignoring the claims of the author?

We want to know the methods by which these results are brought about and we want to learn all we possibly can relative to their significance and value.

In brief, we want to show ourselves broad, fair-minded physicians, capable of giving a just and honest hearing to new ideas, even tho they come to us in the garb of improbability.

It is only by preserving this liberality of spirit that we can ever hope to expedite the progress of medical science, or avoid becoming participants in persecution. To refer to Dr. Fitzgerald's work, we hold no brief for zone or pressure therapy, for our knowledge is too limited for us to express an opinion for or against. But when a medical man of the character and qualifications of Dr. Fitzgerald asks his colleagues to investigate a line of treatment he has found of value, to refuse to do so and condemn without giving his claims a fair trial is to prove recreant to our trust as physicians.

Migrainous Celebrities.—*The Medical Press and Circular* for Oct. 26, 1921, calls attention to a recent book by a French author (*Migraine*, by Dr. A. Nast, Paris, 1921) which tells of the influence severe headache has had on the lives and careers of certain noted Frenchmen. Montaigne was one of its most conspicuous victims, and after suffering from it for many years, he left on record this melancholy conclusion, *nous sommes pour vieillir, pour affaiblir, pour être malades, en despit de toute medecine*. Guy de Maupassant was another victim, but in his case he refused to accept the inevitable. He preferred anesthetization to the sufferings he was called upon to endure, and for this purpose resorted to the inhalation of ether. Lesègne is also referred to as an example of suffering caused by migrainous attacks. The story is told that he was once engaged in a tournament and during an interval he sought to stay his appetite by eating a piece of chocolate. An acute migrainous attack quickly followed, the intensity of which compelled him to retire from the contest. Nast attributed this attack to the chocolate which had been eaten, and the facts were in favor of this, inasmuch as a similar result occurred whenever the experiment was repeated. But in the case of Montaigne and Guy de Maupassant, a common feature was present, upon which the migraine probably depended. Each used his eyes largely in close work during the day, in literary oc-

cupations. The cause of the migraine may, therefore, have been due to some error of refraction, or to some variety of heterophoria, neither being known, in those days, as a cause. Altho the symptoms of migraine commonly correspond with those attributable to alimentary toxemia, the ocular factor should always be the subject of inquiry.

All of this is particularly interesting to those of us who have known of the splendid work Dr. George M. Gould has been doing for so many years in showing the importance of eyestrain as a cause of headache and countless other human ills. Dr. Gould's remarkable article on "Ametropia" which ends in this issue is one of the most important contributions on defective vision ever written and published. This article has run thru three issues (it started in our September number) and probably covers the subject more thoroly and comprehensively than any one has ever before attempted. We do not want to appear extravagant in our praise, but no physician, whether he does eye work or is in general practice, should fail to preserve this article by Dr. Gould and study it with the greatest care. It is a mine of practical data, and those who read it with the earnest thoroughness it deserves will be astounded at the wealth of clinical material it presents. A good many medical men know how much Dr. Gould has done to bring the profession to a realization of the etiologic importance of faulty vision and eyestrain, but it is a sad commentary on the ability of even our most intelligent people to recognize the value of great achievements and discoveries, that years must pass before they will appreciate how great a benefactor Dr. Gould has been to humanity and the civilized world at large.

Dr. Stephen Smith—Our Cover Picture This Month.—It seems especially fitting and appropriate to place on our cover this month one of the world's famous physicians, an American practitioner who in the hundredth year of his life is recognized and acclaimed as a great sanitarian and public health expert. A man who has played the conspicuous part he has in sanitary progress, with the years of service he can point to, may well be called the Father, or perhaps still better, the Grandfather of Sanitation.

Dr. Smith began the study of medicine in 1848 when he entered the Geneva Medical College, Geneva, New York, having become interested in the subject because of his delicate physique. Here he was in the class with Elizabeth Blackwell. In 1849-1850 he was a resident student in Charity Hospital, Buffalo, and studied under Professor Frank H. Hamilton. He entered the College of Physicians and Surgeons, New York, in 1850 and graduated in 1851. He then entered Bellevue Hospital as an interne, and in 1854 became visiting surgeon to Bellevue. In 1855 he was appointed physician to the typhus hospital on Blackwell's Island.

Dr. Smith was made Health Commissioner in 1868, which office he held for seven years. In 1870 he called a conference of health officers of the principal cities to form an association for the advancement of public sanitation. So was formed the American Public Health Association, which has just been celebrating its semicentennial here in New York City. He became the first president of this organization.

Truly, it was a marvel to those who heard Dr. Smith speak at the banquet tendered him while this recent convention was in session, that a man ninety-nine years of age could deliver an address with the vitality and force this Grand Old Man of Medicine showed from first to last. If a man ever demonstrated the benefits of a sane and well poised life, Dr. Smith surely did. It is our earnest hope that he may add many more years to the century that he is about to complete. His face and everything about him not only tell how richly God has blessed him, but also how truly he has deserved it.

The Power of Observation.—To be a good observer is a gift of high value in medicine, says the *Med. Press and Circular* (Nov. 2, 1921), and its cultivation an essential element in successful practice. To be a good observer implies also the possession of a good memory. A hint may be gathered from noting a trivial isolated detail, which may lead to a train of visualization of much value in diagnosis. A good diagnostician is generally a good observer: a correct diagnosis in a difficult case may depend upon good observation. The clinician should aim at emulating the teaching of a Sherlock Holmes. The opportunities which medical

practice provides for this fascinating pursuit are numerous. Sir Charles Bell, the Edinburgh surgeon, inspired the creator of the mythical Sherlock Holmes to illustrate how much successful detective work depended upon the exploitation of the faculty of observation. The eye is the outpost of the diagnostician, but it must be used with expertness if every detail it can teach is to be turned to account. Again, a deductive mind, combined with good observation, is by no means an inconsiderable asset in diagnostic work. A process of deduction may place a value upon an apparently trivial detail, and out of it an important bearing upon the treatment of a case might be evolved. Nature, as we know, in regard to disease, is sometimes playful in her moods. A disease closely resembling another disease raises sometimes the difficult question of a differential diagnosis. Varicella may make a diagnosis of variola possible: a syphilide has been diagnosed as smallpox, and the case transferred to a smallpox hospital, only to be returned as an instance of a wrong diagnosis. It is in such cases as these that the faculty of a Sherlock Holmes practitioner might prevent the commission of an error. The cultivation of the power of observation of a Sherlock Holmes has an interest of its own, besides adding to knowledge and tending to ripen experience.

Too Bad!—Last month we spoke of the forthcoming visit of Dr. Lorenz of Vienna to the United States, and the genuine satisfaction many American physicians and surgeons would derive from the motives that had led this famous scientist to come to this country. From an interview with him in Vienna, it was plain that he thus sought to show the appreciation he and many other Vienna physicians felt at the kindly efforts American medical men had put forth immediately after the war in behalf of the children of Austria.

Dr. Lorenz expressed the hope that his purpose would not be misunderstood, or that his desire to reciprocate the kindness of American physicians to the children of Vienna would not give affront to his colleagues here. The welcome Dr. Lorenz

has received here in New York has shown that we rightly estimated the broad gauge spirit of the doctors of this great big-hearted nation. Only one discordant note has been heard thus far, and strange to say this has come from the City of Brotherly Love. One of the best known and widely respected surgeons of the country has been quoted as saying concerning Dr. Lorenz, "The man is a Teuton, and I never again will have anything to do with a Teuton." Coming from a man of small mind, such a remark would only occasion pity for such an evidence of illiberality and narrowness. But from a man who has achieved great things in surgery and who is deeply respected and admired by his colleagues for the splendid service he has rendered to humanity thruout a long and eminently successful career, the feeling aroused by his hasty words is one of sadness and sorrow. Dr. Lorenz in coming to this country has shown a fine spirit of gratitude, and as he has expressed it, "Medical science is too big to know any racial feeling of antagonism or dislike." The needs of afflicted and suffering humanity transcend all others, and medicine and surgery should never be handicapped by race consciousness or hatreds. It is too bad that an American physician has seen fit to express a sentiment that can serve no other purpose than to fan the flames of prejudice and ignoble passion, and especially at a time when the wounds of war were showing such healthy signs of healing. Thank heaven, few American physicians have entertained views so much at variance with the kindly spirit usually expected—and not without reason—from those who minister to the ills of mankind. Indeed, it has been a matter of no little pride that the medical profession have done so much to demonstrate to the civilized people of the world that human beings have a higher, nobler mission in life than the cultivation of antipathies and animosities.

We fully realize that the physician referred to has the right to hold any views he deems proper and wise concerning the Teutonic, or any other race. But in conceding this to him we also claim the right ourselves to say in respect to his unhappy views, in the words of Josh Billings, "We are glad they are his'n, and not our'n."



ORIGINAL ARTICLES

THE DOCTOR, THE LAW AND THE DRUG ADDICT.

BY

THOS. S. BLAIR, M. D.,

Chief, Bureau of Drug Control, Pennsylvania
Department of Health,
Harrisburg, Pa.

Needed: Sweet reasonableness, is the text of this article, in which the effort will be made to apply this philosophy to all persons and classes involved. It would seem that in matters involving acts of congress or assembly there would be slight occasion to encounter wide divergence of opinion, and were all constructions of legal enactments enunciated by the courts, it is probable there would be little divergence; but, in our present complex jurisprudence and mechanism of law-enforcement, there are administrators many and bureaus galore, leading to many extra-judicial interpretations, orders, rulings, etc., that make for confusion and misunderstanding.

Perhaps confusion of this nature inheres to no greater degree in the interpretation of the narcotic drug acts than it does with numerous other enactments; for in all lines of business, regulation by law is much in evidence. There is a tendency, in legislation, to incorporate provisions to the effect that necessary regulations may be issued and enforced by the administrators thereof; and of late years there is manifest a tend-

ency toward legislation and regulation by commission, etc., legislatures and the courts, as it were, "passing up" a certain fraction of their prerogatives. The complexity of civilization and the slow work of courts account for much of this; but certainly nothing of this nature was comprehended in the United States Constitution, and the only way to eliminate it is to go "back to the Constitution."

But going back to the Constitution is no simple matter. Even with every desire to do so, there are practical difficulties, and furthermore, the Constitution is variously construed. There are many decisions in federal courts, precedents, etc., as well as a great volume of legislation based on certain constructions of the Constitution; and to ride roughshod over these matters in an effort to reach a rigid constitutional basis would all but disrupt the administration of affairs, and do more harm than good.

This comes to mind in consideration of our revenue laws and the conduct of the Bureau of Internal Revenue, which is under the Treasury Department. The Harrison Antinarcotic Act is a revenue measure and, per force of circumstances, must be administered much as are other revenue measures. This places certain limitations on the suppression of narcotic abuses by the federal government, leaving certain other phases to the states. It is easy for a physician to criticize the federal administration of this

law; but the physician is not a lawyer, and if he were, he would find it difficult to prepare a legal brief alleging error and erroneous procedure, and then have his argument sustained in court. The law duly sets forth the right to make proper regulations in enforcement thereof; and the procedure followed with these Treasury decisions and orders of the Commissioner of Internal Revenue is quite elaborate, checked all along the line, before they are promulgated and become of force.

That these decisions and orders appear to be issued *ex cathedra* may appeal to the medical mind; but it must be remembered that the medical traditions are predicated on the idea of individualism, whereas legislation deals with collectivism and jurisprudence is based on precedent and never on class consciousness.

Orders, rulings, decisions, etc., come under the category of emergency legislation, quite secondary to general legislation, but possessed of a certain force. When the emergency is met by the enforcement of rulings being effective, then the ruling can be revoked or superseded. It is not here contended that these orders, rulings and regulations are always wise or necessary, but if it can be shown that they are neither wise nor necessary, proper recourse remains and they may be legally set aside. In this connection, it must be said that the class argument may not prevail, for sound public policy may demand that many things be done contravening the class idea or assumed right; and it is also true that the emergency may be local or special and that it may be necessary, for the general good, to meet this emergency, even as quarantine may be local in its need and enforcement but designed to protect the whole people.

The modern tendency to hold law in

disrespect or light esteem, and the worse tendency to employ attorneys to help one safely to break the real intent of the law for gain and yet camouflage the violation in a maze of technicalities in order to keep out of jail, are phases of our civilization that distress every reasonable man; yet these things are condoned and have even poisoned what is called practical politics. Were it not for these tendencies to skate on thin legal ice, most of the federal regulations would not be necessary.

In this tendency, physicians and druggists, or some of them, are no exception; and to control the activities of this small minority of professional persons it is necessary to put in force restrictive measures that apply to whole classes of law-abiding physicians and pharmacists, often to their marked inconvenience. The remedy here is for the official organizations of physicians and pharmacists to discipline the recalcitrant colleagues, thus making certain regulations unnecessary.

State Laws and Regulations.—State law may not abridge or contravene federal law, but the state may legislate additionally. The police power largely belongs to the state and its possession warrants the state in enacting laws for the preservation and maintenance of the public health, to regulate the practice of medicine and pharmacy, the vending and distribution of drugs within its borders, as well as many other things coming under control by virtue of the police power.

Uniform state legislation is desirable in many directions, and as regards the control of narcotic drugs it is easy of attainment for if the state enacts legislation paralleling the Harrison Act, with the exception of the tax features, and adds additional provisions for the control of the professional people

licensed by the state as practitioners, as well as making proper provision for the care of drug addicts, it may place the administration thereof in proper hands under the state government and the legal proceedings in state and county courts. Such state control is desirable in many ways, but in the administration thereof, the utmost of cordial cooperation should be maintained between state and federal officials charged with enforcement duties. Since the state is not involved in the question of the collection of narcotic taxes, and should be deeply concerned in the removal of menaces to health and in the humanities in general, the state law should be, at least in part, administered by persons trained in medicine and pharmacy and who are thus in position to give intelligent aid to professional practitioners and the unfortunate drug addicts under care, thus supplementing from the human side the more distinctly legal work of the federal officers. As the matter of narcotic drug control is not an integral part of the work of any state department except that of public health, it is well to place administration in the hands of the state board of health. Such a plan works out well in practice.

But it is not wise, ordinarily, to depend upon mere health codes or regulation to undertake narcotic drug control; there should be a balanced act of assembly, with carefully worded provisions, definite penalties provided, and administrative power conferred.

Since the state is not concerned in the drug traffic from one jurisdiction to another, has no part in the collection of internal revenue taxes, and has no international relationships, there is comparatively little occasion for the state administrators to issue regulations and orders under a state nar-

cotic law, except as involves the matter of reports provided for in the act itself. When regulations are necessary in the administration of a state narcotic law, they should be issued only after due conference with the classes of business or professional persons involved and after approval by the attorney general of the state. No state narcotic law administrator should have power to promulgate orders and regulations wholly on his own initiative, and it should be his especial care to show every possible consideration to professional and business people engaged in the legitimate distribution of narcotic drugs and the care of the sick and drug-addicted people. Physicians and druggists are busy people, and it is not fair to them, nor is it necessary in administration, to demand a host of reports not definitely demanded by the requirements of the law itself. When experience shows the necessity for some additional report, the legislature should be asked to amend the act itself to cover the need. Let me illustrate this latter point. In Pennsylvania we found a host of grocery stores selling soothing syrups containing opium or morphine, and the abuse of these preparations by ignorant mothers became a menace to health. So we required reports of such sales by grocerymen; but as soon as the legislature met, an amendment to the antinarcotic act was introduced and pushed thru to full enactment, which makes it unlawful, after 1921, to sell to or for the use of any child under twelve years of age, except on the prescription of a physician, any preparation containing a narcotic in any quantity whatsoever.

The Human Side and the Law.—There is a vast difference between vicious or wilful violation of law and a mere technical violation without wrongful intent. There are so many laws and regulations applying to

physicians and druggists that it is to be expected, as a matter of course, that many reputable practitioners unintentionally fracture some of them, or that their assistants or clerks violate these technical requirements. All that is necessary, in most instances, is courteously to call attention to the lapse and set forth the requirements; and the professional people are few indeed who fail to respond with equal courtesy. To make a regular man-hunt of the inspection of drug stores and the offices of professional people, drag-netting reputable practitioners and their places of business, in the hope of making cases, is so much in the nature of framing up a man as to be reprehensible on the part of any inspector. Responsible heads of departments and bureaus deprecate such tactics as regards technical violations, but green inspectors are sometimes guilty of doing it. Any reputable physician or druggist owes it to his fellows to report such deportment on the part of agents and inspectors and ask for a re-inspection by a seasoned man. With the occasional vicious physicians encountered by inspectors, the case is different; they need to be drag-netted in the interest of the community.

Physicians are very human; they will almost always meet the officials half way and do it gladly. The right kind of narcotic law administrator makes friends of the reputable professional people, and they are glad to see him, for he comes to help, not to hinder.

Good law enforcement is a sort of salesmanship and the enforcement officer is, as it were, "selling" the law—showing his goods, explaining their good points, how to use them advantageously, and creating a public demand for law enforcement; but he is, like any salesman, anxious to locate the

crooked dealer and see that the credit man knows about it. For the benefit of the trade, he collects evidence against the crook, and if he does it properly every reputable dealer in his territory applauds him for it. The main point in salesmanship is *service*, and the same thing applies in law enforcement.

"In the Course of Professional Practice Only."—The physician may use narcotics "in the course of professional practice only." Exactly what constitutes professional practice has not been defined by the courts, tho the general view is that it hinges on *good faith* and is in general accordance with the procedures justified by current professional opinion, more especially as set forth by standard and accepted text-books by writers in one's own school of practice. Courts will not accept a physician's own interpretation of the law, as based on his own professional predilections; for legal interpretation alone rules in such matters. Nor will strained interpretations be accepted in place of the plain intent; neither will warped ideas of professional prerogative or human right.

So long as one follows the accepted text-books there is no issue raised over the prescribing of narcotics in ordinary dosage when a physician is in actual attendance on a case of illness or injury; but when the dosage is heavy and continued, and there is no definite incurable disease other than addiction, it is exacted of a physician that he justify himself in such prescribing.

The profession at large seems to be well content with the status expressed in the last paragraph, provided humane latitude is given in the case of aged and infirm persons and those with incurable disease; and state administrators, especially if physicians, are in position to see to it that these privileges

are extended without being taken advantage of under mere subterfuges and thus the federal law be violated. In Pennsylvania, out of a total of approximately eleven thousand physicians, only about three hundred raised issue over this status. Several of them are in jail, many were fined, quite a number were penalized by having their licenses to practice medicine suspended on account of drug addiction, and others are addicts to a degree not justifying suspending their licenses. There are very few competent clinicians among the three hundred; but they—the three hundred—make more outcry over the alleged inequalities of the narcotic laws than do all of the competent physicians of the whole United States. Thoughtful practitioners pay as little attention to this self-interested outcry by the discredited and “dope doctors” as they do to other forms of quackery noisily exploited.

A federal court, in ruling on a case, has a perfect right to hold that certain lines of procedure followed by a physician in supplying an addict *do not* constitute legitimate professional practice and are in violation of the law; but what *does* constitute professional practice is more a matter for the state than for the federal government to decide. A state may properly legislate on the question of the medical and other treatment of drug addicts, and if the legislature sees fit to do so, certain rules may be set forth whereby any licensed physician may, in good faith, undertake the treatment of drug addiction “in the course of professional practice.”

It does not seem to be good policy to deny to the private practitioner the right to treat drug addiction in an attempt at cure, provided due diligence and skill are exercised and the effort be made in good faith.

The law does not exact that a physician exercise extraordinary skill in the treatment of a case of pneumonia or of drug addiction; but it does exact that a case of drug addiction be under ordinarily skilled personal attendance in which proper case-management is given, just as in pneumonia. If a physician is in the responsible position involved in treating pneumonia, and all he does is to send to the sick man a quart of cough syrup to take as he sees fit, and under such neglectful treatment the patient fails to make a proper recovery, action may be brought against the physician. It is contended by many competent physicians that “drug addiction disease” is just as much a pathologic entity as is pneumonia. Well and good; but let these physicians remember that in so classifying drug addiction they are putting it in the same medico-legal aspect as is pneumonia in the eyes of the law.

How Should Drug Addiction be Treated?—

This is a matter for medical science to determine, not for the law; but it stands to reason that prophylaxis, case-management, physiologically balanced medication, proper physical measures, selected diet, nursing, and treatment in the convalescent stage are all demanded, just as in other diseases. Drug addiction, like paralysis agitans, does not, so far as we know, give rise to definite lesions; therefore there is room for speculation over its pathology and proper treatment. In the absence of exact knowledge no one can afford to be dogmatic and any theory held in attempted explanation of drug addiction is more or less academic and its application in treatment empirical. But, in drug addiction we should remember that many cases exhibit psychoses, just as in borderland insanity, demanding custodial care as a delinquency; and, furthermore, that there is a close relationship between

drug addiction and crime. So, then, the matter is complex, demanding thoro research by medical men, sociologists and criminologists.

Whether the physician should follow the methods set forth by Pettey, Lambert, Erlenmeyer, Jennings, Pearson, Lott, Bishop, Stokes, Hamilton, or of any other candid student of the subject, who has a theory or special method; or whether he follows a combined or eclectic method, such as that adopted by Burr, is for the physician to determine in any given case; but he cannot justify himself clinically except on the basis of responsible literature or a competent personal study and investigation. To undertake fanciful methods is poor tactics. Needless to say, the institutional treatment possesses advantages over methods available to the private practitioner; but if in private practice the addict is put to bed in his own home, under the constant supervision of a competent nurse, there is no reason why any able physician should not follow the details of any standard treatment he elects and have good results in doing so. The office treatment of drug addiction, or out-patient treatment, is rarely successful except in the case of persons who have taken narcotics purely therapeutically for a short interval and come to the point where the physician gradually withdraws the drug.

Certainly the official in charge of the administration of the narcotic laws should neither recommend nor condemn any responsible and respectable method, playing a favorite to the rejection of others, or be commercially interested in any institution except one conducted by the state, municipality, or board of health, and in which he is paid a salary, not fees received from patients. Commercializing narcotic administration, or making it subservient to polit-

ical adventures, is to be wholly condemned. The administrator of narcotic laws should be paid an adequate salary, and he should receive no private fees whatever while in pursuit of his official duties.

One of the greatest handicaps in administration is unwise publicity, especially when of a saffron tinge. Part of this is the fault of enterprising newspaper reporters; but some of it is not. It is amusing to a man "in the know" to see scarehead stories of thousands of dollars' worth of "dope" seized, when at regular prices it is worth about a dollar and a quarter; but it is not amusing, for it is highly distressing to a medical-man administrator, to find that the mistake of some physician or member of a reputable family is played up, bringing sorrow and shame to worthy people who are entirely innocent, and this on the basis of some mere technical charge that should be settled quietly without any publicity whatever. Sad to say, many of these cases are due to the offending physician being himself a drug addict. Perhaps an able man, he has yielded to pressure of over work, worry, or what not, and gradually his judgment is warped and he begins to go wrong on his purchases of narcotics or his prescriptions. Such cases are best settled by an intelligent rescue work, returning the physician to his practice sane and able to do capable work; and this is done, in a bureau such as I head, without any publicity whatever. The best work we do is that which never gets into the newspapers. There is no more occasion to make public the fact that a man is being treated for drug addiction than there is to print the fact that he is being treated for syphilis. The ethics of medicine should apply to state and public medicine just as much as to private practice. Were this ethical attitude taken and n

publicity allowed, there are thousands of secret drug addicts that would apply for treatment, many being cured.

In this connection, it may be said that there is provision in the Harrison law for secrecy, and the administrator of this law is subject to a fine if he gives out information except as it is necessary to do so in prosecution or other legal connection. This provision should be observed. The same provision is in the Pennsylvania law and it is lived up to here.

The Reductive Ambulatory Treatment.—As was said before, a court may hold that a certain procedure does *not* constitute professional practice because not used in good faith; and there is an all but universal opinion held by practical administrators of the narcotic laws that the so-called ambulatory reductive treatment of drug addiction is so unsound in theory and so vicious in its common practice as to place it outside the pale of legitimate medical practice.

It is pertinent to state our experience in Pennsylvania. Under our law any legally qualified physician may, after a physical examination and a report in writing to a board of health, undertake in good faith the treatment of a drug addict. After two years' administration it was ascertained that the reports sent by physicians to local boards of health were seldom made any use of, no return being made by the boards, except in the case of three municipalities, of the facts in the cases reported; therefore it became necessary to amend the law that reports be made exclusively to this bureau, and it was so amended by the legislature. Yet a very small fraction of the physicians did, in fact, report these cases, as required by law; therefore a definite follow-up was necessary in order to get these cases recorded, with such, usually very insufficient, clinical data

for statistical purposes as were supplied by the physicians.

From such reports as came in, now many thousands of them, it was ascertained that at least ninety-nine per cent. of the addicts were not under care of physicians in any but the loose ambulatory reductive method of treatment, and with the reduction part commonly forgotten or ignored. It was apparent that such state registration of addicts was merely used as a subterfuge, by most physicians, to cover themselves with a state "permit" to violate the Harrison law. Now these physicians were not, as a rule, crooked; they merely regarded the addict as a nuisance to be gotten rid of in the easiest way. By the state "permit," as they regarded it, these physicians positively were not protected against prosecution by federal officials, and it became necessary to weed out the whole list by writing to, or visiting, these physicians and checking up on the facts. The returns were most illuminating, and it became necessary to classify addicts as follows: First, pure addiction; second, addiction with curable disease; third, addiction with incurable disease; fourth, pre-operative and post-operative addiction; fifth, addiction in the aged and infirm. This made for improvement, and the law was humanely construed; but there is not a week passes but our inspectors discover many cases which were reported as diseased or aged, in which, in fact, there is no disease other than addiction and the patient under fifty. It appears that the medical profession does not realize its responsibility in this direction, even now, after all the publicity and follow-up, and that most of the more able physicians will not treat a case of pure addiction at all.

Such conditions constituted a farce, and the Commissioner of Health, on my repre-

sentation, issued orders to the effect that the ambulatory reductive method of treatment is not in conformity with the Pennsylvania law and will not be accepted as fulfilling its requirements except as regards persons with definitely proved incurable disease. The result is excellent. Despite our effort to get addicts in care of competent physicians who would give *real* treatment, and the fact that many of our best physicians went to great personal inconvenience to treat these persons properly, almost invariably the addicts left these capable physicians and went to men who would make infinitesimal reductions in dosage from time to time and do nothing else in the way of treatment. There were, in fact, rings of physicians of the lower order who sent these addicts from one to another, after slight reduction, the new man starting with the accustomed dosage and reporting as "cured" the ones he sent away to a colleague. So great an abuse was this that we refused to enter as cured fully ninety-nine per cent. of the addicts so reported, for we had legal proof that they were *not* cured. Some of these low-grade physicians were prosecuted. Thus it will be seen that the sincere physicians of capability had no opportunity to give proper attention to the addicts so long as the ambulatory reductive method of treatment was open to the low-grade men, and the whole matter of the treatment of drug addicts became a commercialized form of malpractice.

Enforcing the new regulation made a hard fight for me; but I have stood pat on it, knowing the necessity; and the fact that the purchase of morphine by physicians in Pennsylvania has been reduced sixty per cent. in the last two years, and the amount dispensed on prescription even more than

that, proves definitely that there was a very large abuse here that the new orders have eliminated in large degree, and it also shows that the relatively small number of physicians who were catering to drug addiction were purchasing vastly more morphine than were all of the reputable physicians of the state combined.

As things are now, the capable physicians of Pennsylvania are actually curing large numbers of drug addicts, for they have a chance, now that the ambulatory reductive method is outlawed here, to treat these unfortunate people as modern medical science directs and the law requires.

Conclusion.—Sweet reasonableness goes a long way, in administration, with reasonable people, and the great majority of physicians are reasonable; but the unreasonable and commercialized "dope doctor" should be prosecuted, not only to vindicate the law and prevent abuses, but to lift from the profession the incubus of a scandal that is nation-wide and that tends to bring the whole profession into more or less suspicion.

Yet it is distressing to find so much counter view expressed by writers on narcotic subjects, so much commercial interest underlying certain propaganda, so much political animus in a matter in which politics have no legitimate place whatever, and so much unkind personality.

As a matter of fact, the great representative medical profession is not interested in the various fights marring the handling of the narcotic menace, only a few men caring a particle for the contentions which merely distress and annoy the great rank and file of the profession, who view the proposition clinically and sociologically, even as they do venereal diseases and prostitution. Let us have peace!

ZONE OR PRESSURE THERAPY— WITH CASE REPORTS.

BY

WILLIAM H. FITZGERALD, M. D.,
Hartford, Conn.

Nearly ten years have elapsed since I brought the subject of zone or pressure therapy, as it has been variously called, to the attention of the medical profession. During all these years I have treated and directed the treatment of a large number of patients suffering from a wide variety of abnormal conditions. Not a few of these were hopeless incurables—according to the judgment of some of the very best men in America.

The method employed in the treatment of these cases has been clearly outlined, the details of treatment being described in such definite form that any practitioner of ordinary intelligence can easily put them into practical application without further instruction.

Why Quackery Pays Big Dividends.—That a greater proportion of the earnest, conscientious physicians of the country have not tested the possibilities of zone therapy, speaks louder than any words for that backward leaning conservatism that has distinguished the medical man of all ages, and that has made possible the growth of quackery in America and elsewhere.

It is my intention in the present paper to discuss briefly this method not only of controlling pain and of making the body more resistant to painful impulses, but to consider a few conditions, quite generally met in practice, with some details of their treatment by procedures that will be found both practical and easy of application.

In this connection it occurs to me that perhaps a report of a few cases in which

zone therapy has been successfully employed may carry a certain conviction and possibly induce practitioners who have never tested this line of treatment, to give it a trial in some similar case in their own practice.

Can't Possibly Do Any Harm.—First, however, I would like to emphasize the fact that in employing zone therapy there need never be any apprehension as to a possible deleterious outcome. If it does no good—and one has to expect failures in any form of treatment, else no one would ever die—it cannot do any harm. Anyone who has the necessary initiative can make use of it, but none other than a physician trained in medicine from a diagnostic, as well as a therapeutic standpoint, can possibly appreciate or impart all of its advantages.

In applying zone therapy we divide the body longitudinally into ten zones, five on each side of a median or central line. The first, second, third, fourth and fifth zones begin in the toes and end in the thumbs and fingers, or begin in the thumbs and fingers and end in the toes, if you prefer it this way. For instance, the first zone extends from the great toe up the entire height of the body, including the chest and back, and down the arm into the thumb. The other digits are related to their particular zones in like manner.

The tongue is divided into ten zones. Pressure on the dorsal surface of the individual zones on the tongue affect the corresponding anterior sections of zones everywhere thruout the body. But firm pressure on the tongue, continued for several minutes, affects both back and front of zones. The nostrils, hard and soft palate, and the posterior walls of the pharynx and epipharynx are divided in the same way, as are various

other orifices of the body. Posterior pressure or contact affects posterior sections of zones, while anterior pressure or contact affects anterior sections of zones. Traction on the soft palate in the epipharynx affects the anterior zones, and traction on the anterior pillars of the fauces affects zones one, two, three, four and five, especially in arms and shoulders in the posterior sections of zones. (Tongue pressures made with depressor or spoon, or the patient may press firmly both surfaces of his tongue with his teeth.)

Key to Zone Therapy.—Bands of rubber, metal or fabric (preferably metal) should be worn at wrists or ankles or both, for general or local inhibition thruout the body. These bands should be worn uncomfortably tight from five to fifteen minutes several times daily, and comfortably tight at other times during the waking hours, at least. Similar bands in varying sizes may be worn when necessary, wherever desired on extremities, head, neck or trunk in conjunction with the therapy zones.

The foot and ankle correspond with the hand and wrist on the same side of the body. The knee corresponds with the elbow, and the hip corresponds with the shoulder of the same side.

If pain exists in one section of the upper extremity, choose the corresponding section of the lower extremity at a point which is identical with the painful part on the same side, and exert firm pressure with finger tips, compressor, etc. If the above treatment or pressure on or between appropriate fingers or toes does not relieve the pain, rotate the joints or between the joints outward for pain on inner side or front of extremity and hold in that position for several minutes. Rotate inward and hold as above for pain on outer side of extremities. This applies to all the joints throughout the body.

(It may occasionally be necessary to make a tourniquet of bands on wrists, etc., to get sufficient pressure to overcome pain in individual or collective zones.)

CASE REPORTS.

The following are a few cases that have been treated by rudimentary zone therapy.

Case I.—Mr. H. B. Age 33 years. Had 68 orthopedic bakings for ankylosed elbow following fracture of left elbow. Could flex elbow but not sufficiently to touch shoulder with left thumb. Pressure over resisting areas in elbow and corresponding areas of left knee, sufficiently overcame his difficulty in four minutes to enable him to touch his left shoulder with his left thumb, something his surgeon had believed impossible.

Case II.—Mrs. L. S. K. Age 46. Colles' fracture (R) ten weeks—could not flex arm sufficiently to touch head. She was able to move arm in all directions and with slight difficulty, after two minutes' pressure on resisting areas of arm and corresponding areas of leg (R). She discharged her hair dresser after second treatment.

Case III.—Mr. N. K. Age 47. Had pain over area size of twenty-five cent piece, between appendix and umbilicus—1st and 2nd zones. I was the thirteenth physician he had visited in two years. Not one had been able to diagnose his case or help him in the least. Patient had a badly broken down lower bicuspid tooth (R). I cauterized with a fine point cautery the gum margin, and within thirty seconds the patient said the pain had disappeared. The tooth was extracted, and he has had no pain since.

Case IV.—W. H. W. Age 63 years. Paralysis of right arm following hemiplegia one year before. Sensitive spot on tip of right thumb, junction of anterior and posterior sections of zones. Did not recall any lesion in throat or elsewhere, until I suggested that he probably did have a sore throat some years previously. It then occurred to him that he had "a time with his throat" covering a period of three or four weeks, several years ago. He denied any specific history. The acute sensation under pressure in right thumb I followed to the tip of epiglottis, where I found a well-marked sensitive area of scar tissue, perhaps half the size of a dime. The Wassermann test brought a 4+ report.

Case V.—Dr. K. Brought his chauffeur—age 50 years—to me for aural examination. Patient stated that his deafness started 35 years previously, that he had been last treated 15 years ago and been told many times that nothing could be done for him. His deafness was a well-defined otosclerosis, and patient could not hear a loud whisper one-half inch from ear. Pressure to the hurting point with a metal comb at external marginal junction of ring finger and hand, and internal marginal junction of little finger and hand for about a minute. Afterwards he was able to hear the same whisper at a distance of five feet and an ordinary tone—the Doctor himself speaking—something he had not been able to do in years at 20 feet.

Case VI.—Miss R. H. Age 15 years. Well-marked goiter (simple), involving first, second, third and fourth zones on both sides of neck (11 months). Neck measurements 14 inches. Patient was timid about nasal treatment, so we decided to treat her from extremities alone. She wore constricting or pressure bands on thumbs and first, second and third fingers of both hands during five to fifteen minute periods, eight to ten times daily, and umbrella rings on corresponding toes for an hour or two each evening. She practically cleared the condition up herself, during a period of eleven weeks. Neck at this time measured $12\frac{1}{2}$ inches. Discharged well.

Case VII.—Mrs. G. O. M. Age 46 years. Brachial neuritis and pain on long inspiration under right scapula. Had spells of coughing at frequent intervals during the day. Pressure elicited painful area on posterior surface of wrist in third and fourth zones, corresponding with irritation of zones in posterior thorax. Pain in arm limited to second zone, pressure on front of wrist with metal comb easily eliciting this. Saw patient at intervals of three days for nine days, much improvement apparent at each visit. No sign of trouble after third treatment.

Another case of brachial neuritis might not respond to extremity treatment at all, but might recover quickly if anterior pillar of fauces on affected side were pulled forward, and held with blunt hook for a minute or two, and the patient taught how to do it.

Case VIII.—Mr. L. S. K. Age 54 years. Automobile accident. Severe injury to back causing pain in dorsal region—first and

second zones. Similar pain elicited thru wrist, posterior surface. Patient after very careful examination by family physician was told that it would be two years before he would be well. Patient used zones on appropriate fingers during the day and permitted an insurance company to discharge him as well after his fifth treatment at my office.

Case IX.—Mrs. M. J. H. Age 40 years. Her husband, a doctor of medicine, telephoned me to ask if I would see his wife who was then in much pain. He said she had dysmenorrhea and suffered monthly for many years. At his suggestion he brought her to my office and after I had exerted pressure with a tongue depressor on the middle third of her tongue for perhaps half a minute, she asked me if it would not be possible for her to apply the treatment herself. I assured her that it would, and asked her to proceed with the treatment. After two minutes of pressure, she said the pain had disappeared, and it evidently did permanently in her case, as she has not had an attack now in more than two years.

Two weeks following the above occurrence the doctor telephoned me that his daughter, a girl of fifteen years, was suffering similarly, and asked me if he might bring her to my office. I assured him that he might, but while we were conversing his wife was exerting pressure with a tongue depressor on the daughter's tongue, and he phoned me a few moments later to say that it would not be necessary to bring her to see me as she was then entirely free from pain.

Dysmenorrhea is often relieved by folding hands and holding them so very firmly for several minutes, or wearing tight rubber bands on appropriate wrists.

Case X.—Miss E. F. Came accompanied by her sister, with whom I had an appointment at my office. Stated that she was in town for that day on a peculiar errand. Her hair had been falling out so rapidly that she decided to have her head shingled. I asked her to postpone the contemplated operation, for the present at least, and instructed her how to rub the finger nails of one hand against those of the other, including the thumb nails, very briskly for two or three minutes a few times daily—and watch the effect. Her sister reports that her hair stopped falling within a few days, and she has never had any trouble. I have had

scores of people report that they have been able to tighten their hair in the same manner, even in cases of elderly people.

Case XI.—Dr. G. of Bridgeport, Conn. The doctor who was then President of the Connecticut State Medical Society, stated that he was much interested in what I had to say in one of my papers, particularly because of the fact that he had been unable to lift his right hand higher than his shoulder for some months, without considerable pain in his shoulder. I exerted firm pressure with a compressor across the front of the doctor's wrist and he said my pressure excited pain in wrist directly over his thumb.

This made it clear that his trouble was limited to the first zone in his shoulder, and he agreed that this was correct. I asked a medical friend of the doctor to exert pressure on all surfaces of right thumb of patient with his fingers and thumbs. After a minute by the watch, we asked him to raise his arm, and this he did at full length, remarking that he was just conscious of a slight pain, where it formerly had been acute.

Another physician at the same meeting stated that he had what had been diagnosed chronic appendicitis, was then having an attack, "and really should be in the hospital, and perhaps would be the following day." "Do you suppose zone therapy would help me?" he asked. I asked one of his friends to grasp and press together firmly the second and third fingers of his right hand. After the first half minute, he stated "that pressure accentuates the pain," but at the expiration of a minute and a half, he stated that the pain had disappeared. One hour and a half afterwards he told me that he had had no recurrence. Still another M. D.—at the same meeting—told us that he had been afflicted with gout for the past year and a half, and that his right great toe was not only painful, but had been ankylosed for the past year. After pressure by one of his colleagues on all surfaces of his right thumb for five minutes, he stated that "not only has the pain disappeared, but I am moving my right great toe for the first time in a year." He had supposed that his toe was truly ankylosed.

A case of throat cancer—so pronounced by five prominent nose and throat specialists. The fifth specialist brought the patient to me. I told him that I would send the patient at least once a month to his

office for observation. At the fourth monthly visit to his office, I was informed by the doctor, via the telephone, that he could find absolutely nothing wrong with the larynx of the patient, and pronounced him well.

Another patient, Mr. T. K. of New Britain, Conn., had been very definitely told that nothing could be done for him—least of all an operation. Mr. K. was absolutely voiceless when he came to me—unable to speak except in the huskiest of whispers, and had been in this state for months, an ulceration the size of a dime mounting a marked induration of the entire right half of larynx. After four months' treatment by pressure, at stated intervals, with a blunt probe on the posterior wall of the epipharynx, together with the wearing of a rubber band on the wrist and special wire rings on the thumb and all fingers of the right hand (the right side of larynx being involved), his voice is now as resonant as ever, not a trace of his hoarseness remaining.

I have never suggested zone therapy as a panacea, but I am certain that any physician who is in the least acquainted with it, from either a diagnostic or a therapeutic point of view, will admit its helpfulness as an adjunct to other measures and methods of treating the myriad ills that are constantly coming under our observation.

The limits of this paper do not permit of a discussion of the *raison d'être* of the results any physician can obtain in the majority of painful affections. It is evident, however, that different areas of the body are definitely linked with, or related to each other by nerve reflexes or other agencies, in a much more intimate way than is realized. The proposition is not only a fascinating one to study, but one that in its practical application offers very remarkable and not infrequently far-reaching possibilities. My only hope is that my colleagues may give to zone or pressure therapy the trial and thoughtful consideration that the experience of a good many earnest physicians would seem to justify.

CHRONIC SEMINAL VESICULITIS: ITS DIAGNOSIS AND SURGICAL TREATMENT.

BY

ABR. L. WOLBARST, M. D.,
New York.

Cystoscopist and Chief of Urologic Clinic, Beth Israel Hospital; Consulting Urologist, Central Islip and Manhattan State Hospitals; Visiting Genito-Urinary Surgeon, West Side Dispensary and Hospital.

A vast amount of clinical experience has been accumulated by contemporaneous urologists to prove beyond a shadow of doubt that a discharge at the male urinary meatus and many other phenomena associated with what we usually term "chronic gonorrhea," are the direct consequences of a chronic gonococcal infection of the seminal vesicles. We still speak of "chronic gonorrhea," not realizing that this term is a misnomer—that it does not convey any real picture to the mind's eye. Strictly speaking, chronic gonorrhea means an inflammation of gonococcal origin, that started in the urethra and has persisted in its manifestations beyond the usual period of ten to twelve weeks. Actually, the predominating lesion may be in the urethra, the prostate, the seminal vesicles—anywhere, in point of fact, within reach of the infective process.

In dealing with a chronic vesicular infection of gonococcal origin, it is well to remember that the seminal vesicles are attacked in the acute stage and remain infected probably longer than any other portion of the genital tract. It need not be emphasized that whenever the prostate is infected, the seminal vesicles are likewise affected to a greater or lesser degree, even tho they give no direct evidence of such infection. There is ample proof, however,

for this belief, and even when the prostate seems to have been restored to the normal, or near normal, the vesicles still may retain their low-grade infection. This is probably due partly to the fact that there is very little if any natural drainage of these little sacs, and also to the fact that our intraurethral medication rarely, if ever, finds its way into their cavities.

An intravesical irrigation, passing thru the posterior urethra into the bladder, surely does not irrigate the seminal vesicles; an instillation into the deep urethra may come in contact with the orifices of the ejaculatory ducts, but obviously the vesicles cannot be affected to any appreciable degree; local applications made thru the urethroscope, likewise cannot reach the infected interior of the vesicles except indirectly, if at all, thru the ejaculatory ducts; even massage or stripping, thru the rectum, does not always benefit the vesicles, because it is but seldom that the average finger can reach them and strip them successfully.

We may reasonably conclude that the seminal vesicles receive almost no direct medication once they have become infected. Fortunately, the infection tends spontaneously to diminish in virulence, the acute symptoms subside, and whether because of our treatment or in spite of it, the inflammation assumes a low grade of chronicity with manifestations not infrequently directed to some remote part of the body. These symptoms vary in kind and degree and for purposes of study and treatment may be classified under four general groups, tho the lines separating one group from another are not sharply drawn since there is more or less overlapping.

Classification.—The most common group is that in which there is a persistent, rebellious and obstinate urethral discharge, usually seen in the morning on arising—the typical

morning drop. This drop also is visible in some cases during the day. In these cases there may have been an acute, deep-seated inflammation during the course of the early stages of the gonococcal infection, which subsided in due course of time and left in its wake nothing but this persistent urethral discharge. At the time of the acute invasion, if the prostate and seminal vesicles were examined per rectum, they would be found swollen, painfully distended and tender to the touch.

In another type of case in this group, there may have been but slight if any symptoms in the acute stage. The discharge appeared and has persisted in spite of all intraurethral treatment. The urine voided in two glasses may be clear and sparkling in both vessels, or may present shreds (and sometimes pus) in the first glass, while the urine in the second is clear. If one depends implicitly on this two-glass test, he is sure to be grossly misled in the correct diagnosis and treatment of these cases. Careful examination with the five-glass catheter test (Wolbarst) furnishes ample proof that the shreds and the pus in the urine do not originate in the anterior urethra but in the posterior portion.

In this group of cases, the urine voided after massage of the prostate and vesicles, especially the latter when it can be done, will be clouded with pus and will contain few or many large clumps of vesicular debris possibly mixed with blood. Microscopic examination of this massaged material usually will show the presence of pus cells, gonococci and other bacteria and dead spermatozoa. There is nothing so striking to the patient and to the physician who has been treating him with sounds and astringents as the urine voided after a vigorous rectal massage of the prostate and vesicles. The pus and clumps of detritus offer a most

startling contrast with the clear urine which the patient has been voiding.

In these cases, recurrent attacks of epididymitis are frequent and it is quite likely that they are due entirely to the infection in the seminal vesicles. This interrelation between the two always should be borne in mind.

The second group is characterized by the occurrence of arthritic complications and is usually termed the "rheumatic" group. In these cases there may be no subjective symptoms pointing to the vesicles. The patient complains of a chronic, painful involvement of one or more joints, bones, muscles or tendons without apparent cause. The careful physician will look for a focal involvement in the tonsils, teeth or other possible pus foci, and if these are found negative an inquiry into the condition of the seminal vesicles frequently will reveal the surprising information that a definite pus focus of ample proportions has been revealed in one or both of these organs. It is within the truth to say that hundreds, possibly thousands, of teeth have been extracted in a blind search for the infecting focus when it really lay within the seminal vesicles. To the pioneer efforts of Fuller much of our knowledge concerning this phase of seminal vesiculitis is due. Appropriate treatment directed at the vesicles generally will bring about considerable relief and, in a fair proportion of cases, a complete cure.

In the third group of cases the principal symptom is pain, usually referred to the perineum or rectum and occasionally aggravated by defecation. The pain may radiate to any portion of the body, especially to the buttocks and the sacroiliac region. Many a case of so-called "lumbago" is nothing else than a chronic seminal vesiculitis. This group, like the preceding, is characterized by frequent, painful and bloody seminal

emissions. The cystourethroscope reveals a large, red, deformed and turgid verumontanum with inflammatory areas on the floor, walls and roof of the surrounding urethra.

Mental and nervous disturbances characterize the fourth, or "neurasthenic" group. These are by far the most unsatisfactory cases to treat. The vesicles are large and congested and tender to the touch, and the urethroscopic picture is typical of chronic inflammation. The predominating manifestation of the vesicular toxin is observed in a feeling of depression and worry, which may simulate true melancholia. Sexual aberrations usually are present. Impotence is a frequent complaint, with premature ejaculation a close second in frequency of occurrence. Masturbation often furnishes relief to these mental disturbances and massage of the prostate and vesicles likewise produces a most soothing sense of relief. Anything that empties the prostate and vesicles of their accumulated contents brings relief, even tho it be but temporary.

It is in this class of cases that the frequent practice of massage, acting on the already weakened mental endowment of the patient, produces an effect which, I am convinced, constitutes a distinct pathologic entity and can be termed the "massage habit." Like cocaine and opium which first relieve pain and then enslave their victims, this frequent massage of the prostate and vesicles affects its victims in the same manner. In the clinics patronized by these neurotics—mostly immigrants—it is not unusual for them to beg the surgeon for a "massage," in very much the same manner as a drug habitué would beg for his drug. The neurotic comes to the clinic to get his massage, and he gets it, even tho it may be unnecessary for him to have it. The development of this habit may be ascribed to the practice, prevalent in many of these clinics patronized

by foreign born immigrants, of massaging every prostate as often as possible. There is no better way of "building up" the attendance at one of these clinics than by this lavish distribution of prostatic massage. They all like it and they come for it as often as they are allowed to come. A vicious circle is inevitable, because the temporary relief is followed by a sense of irritation in the prostatic region caused by the frequently repeated trauma perpetrated under the name of massage. Dozens of these massage habitués have come to Beth Israel Hospital Clinic for a "massage," saying that they have been given that treatment exclusively for weeks and months consecutively at other clinics and in private practice.

Massage admittedly is a most invaluable factor in the treatment of prostatic and vesicular inflammation, but like everything else it should be used in moderation, and as soon as there is the slightest evidence pointing to the development of the "habit," it is well to discontinue the treatment entirely, relying on other methods for results.

Diagnosis.—The diagnosis of seminal vesiculitis is made as the result of a series of data observed in the course of the examination, as follows: 1. The history of a long-standing, uncured, urethral infection. 2. The five-glass catheter test demonstrating the posterior adnexa as the source of the pus and shreds and discharge. 3. Large, swollen and tender vesicles, felt per rectum. 4. Cloudy urine filled with débris after vesicular massage (when such massage can be performed). 5. Cystourethroscopy demonstrating the presence of a deformed, red and congested verumontanum, inflamed orifices of the ejaculatory ducts and adjacent tissues. 6. Radiographs of the injected vesicle showing chronic inflammation (unnecessary in the average case).

It is important to bear in mind, however,

that the prostate and the seminal vesicles are closely related, anatomically, physiologically and symptomatically. It is not always possible to differentiate between them. Nevertheless, it is within the truth to say that the prostate is often held responsible for pathologic conditions prevailing in the seminal vesicles, with the result that treatment is misdirected and fails to bring relief to the patient.

Treatment.—Within the past decade, the proper treatment of chronic vesiculitis has become a purely surgical procedure. The day of santal oil and Lafayette mixture for "chronic gonorrhea" has passed. Urologists may differ as to the best means of attacking these little sacs, but all agree that the treatment has but one object in view, namely, to get rid, by surgical measures, of the toxic purulent products which fill them. To this end various procedures have been devised, each method having distinct merit in certain types of cases.

Belfield brought the subject within the realm of practical surgery by his operation of vasotomy, by means of which he injected medication into the infected vesicles via the vasa deferentia. This was followed by Fuller's vesiculotomy (drainage) and vesiculectomy (excision)—both of which were perfected technically by Squier somewhat later.

It goes without saying that there are cases that require nothing less than drainage or absolute excision, but it probably is the consensus of opinion today that these cases are the exception and not the rule. In the hands of many urologists, including myself, vasotomy and its modifications have given most satisfactory results. In my experience, covering between fifty and sixty cases, this operation has proved of inestimable value, and I am convinced that it is the ideal method of treatment for the

average case. The most striking results have been observed, in my experience, in cases belonging to the neurasthenic and rheumatic groups. In unusually severe cases, in which vasotomy has failed, drainage or excision thru the perineal route would seem to be indicated.

Vasotomy or vasopuncture can be performed as an office procedure, but it is better done in a hospital or in the patient's home, where he can rest in bed for a day or two. Moving about immediately after the operation is apt to be followed by an epididymo-orchitis.

A brief description of the operation may not be amiss: Each day for several days before operation, the prostate and vesicles are vigorously massaged and the bladder irrigated, in order to empty the vesicles as much as possible. Under local anesthesia, the vas deferens is exposed thru a short incision in the scrotum near the external ring. After carefully stripping its many fine coverings, a solution of one of the silver salts is injected into the vas by means of a syringe and a blunt pointed needle of fine caliber. Usually three to five c. c. of argyrol, colargol or protargol solution are injected. Unless there is an obstruction in the vas or the ejaculatory ducts, the solution thus injected can be recovered almost immediately thru a catheter retained in the bladder, thus demonstrating that the fluid has passed thru the vesicles and the ejaculatory ducts into the posterior urethra and the bladder. The vas is then dropped back into the scrotal sac and the skin and fascia closed with a continuous chromic suture and a dry dressing applied, held in place by a suitable suspensory bandage. The entire procedure if properly performed is absolutely painless; my personal preference for the anesthetic is a $\frac{1}{2}\%$ solution of novocain used freely.

For several days, sometimes for some

weeks, the urine voided by the patient will be stained black or brown by the retained argyrol or collargol solution; in some instances a seminal emission ten or twelve days after operation likewise will be brown or black in color.

The results following the operation will be improved materially if the ejaculatory ducts are catheterized at least once before operation. It is my invariable custom to catheterize whenever it is possible.

In one of my cases, a most unusual condition was revealed. Clinically, the case was considered one of chronic gonococcal vesiculitis, characterized by severe perineal pain and pus in the urine. A preceding attack of gonococcal urethritis led to the diagnosis of gonococcal vesiculitis. The vas deferens on the left side was found much thickened and infiltrated. On operation, when a puncture was made with a fine bistoury, preparatory to the injection of the medication, a thick, creamy white pus exuded in profuse amount. The diagnosis was immediately changed to probable tuberculous vesiculitis, and this was confirmed by finding tubercle bacilli in the pus.

This experience suggests the advisability of making a vasopuncture in all cases that are suggestive of tuberculosis of the genital tract, whether it be the epididymis, the prostate or seminal vesicles. It is quite likely that such a procedure might reveal many unsuspected tuberculous infections.

In passing it may be permissible to mention the utility of vasopuncture in cases of azoospermia, in which there is doubt as to the location of the obstruction to the passage of the sperma. In a number of instances, I have been enabled by this means to locate definitely the seat of obstruction in the vas deferens or in the ejaculatory ducts.

In conclusion, it may be said that vasoto-

my has a distinct place of prime importance in the treatment of chronic vesiculitis of gonococcal origin, and when it is supplemented by vaccine and bacterin treatment, constitutes the therapeutic method of choice. I believe no case of so-called chronic gonorrhea, involving the deeper structures, can safely be discharged as cured, unless there is definite assurance that the prostate and vesicles have not seriously been involved. If the vesicles have been infected, and show the presence of swelling, induration and tenderness, even tho gonococci may not be found in the massaged prostatovesicular secretion, vasotomy should be performed, not only as a curative measure, but as a precautionary step, before the patient can be considered cured.

In the more serious cases, with complications, if there has been no improvement after vasotomy, drainage or excision is indicated.

792 Lexington Avenue.

THE DIAGNOSIS, DISEASES, AND THERAPEUTICS OF AMETROPIA.

BY

GEORGE M. GOULD, M. D.,
Atlantic City, N. J.

(Continued from October issue.)

Miscellaneous Suggestions.—Under the battering of the ever-repeated or all-too-constant reflexes or morbid innervation from ametropia, *fainting or swooning* is far more common than is suspected. Patients often in vain seeking relief, hide the fact, or endure it as best they may. I had one patient who from early childhood became unconscious every day for 30 or more years, often lying two or three hours as if dead. She did not suspect she would be immediately cured by my glasses, and I did not know

she had been cured for two years. She has not fainted once in twenty years.

That eye-strain is a frequent cause of crime and immorality has been emphasized by Judge William H. Wadhams of the New York Court of General Sessions, who said that "defective eyesight frequently is the cause of moral delinquencies. Bad eyes make bad men," he said in an address to the Society of Medical Jurisprudence. "The man who cannot see straight cannot think straight and cannot act correctly. When the nervous functions become disarranged the morals also are affected. One of the first steps the State should take in the correction of the criminals is careful examination and treatment of their eyes. A very large percentage of the men who appear before me for sentence are suffering from defective eyesight, and I attribute their moral delinquencies largely to this cause."

The narcotic scandal and the constant and periodical alcoholic drinking of millions is far more frequently caused by eyestrain and its reflexes than even the extremist suspects. The *laudanum drunkenness* of DeQuincey and of thousands of others was undoubtedly one of the effects of eyestrain. I have cured, by glasses, persistent *hiccough*, and many cases of *chorea*.

I have yet to see *tachycardia* in otherwise healthy persons that is not at once cured by correction of ametropia.

Thousands of suffering folk are going to the bad by *reading in bed* with the light not behind the head, and lying prone instead of sitting erect, back against the headboard.

Expert Specialists in Consultation.—I do not know what to say, nor how to say it, concerning the plan, in being, of having permanently in the oculist's office an expert neurologist and an expert general physician to determine if a presenting patient should be pronounced a proper person to have

glasses, or the rest-cure, or an operation.

With good illumination, perfect tools, youth and a bright mind, *2015 visual acuteness* is often obtainable.

One fee for three months' services is a capital plan, both for oculist and patient.

Albinism is a terrible disease, and more frequent than suspected. We can do worlds of good for these people.

Optic neuritis and *very high blood-pressure* was in case 1687 caused by inaccurate refraction, and cured at once by accurate glasses.

Doctors and nurses in hospitals, rarely, if ever, are cured of any diseases by any glasses.

Lenses much larger than necessary, especially if they are round, cannot be slanted top forward as much as is advisable. No lenses should touch the skin or eyebrows.

Nocturnal enuresis of children and youths is in my experience curable by spectacles.

The hospital authorities will never learn that a patient should not lie all day and all days *facing sunlit windows*.

The nursing-girl cannot understand that a baby's face and eyes should not be turned toward *the sun*.

The photographs of many, if not most elderly folks, show that the left eye is partially or wholly out of use.

Canted head is often shown in the photographs of adults, and in previous photographs, from childhood.

"Malignant myopia" is the sin of ophthalmology, but no ophthalmologist is a sinner! Several oculists told a patient she would be blind soon, and refused to give her glasses. She is now doing much good literary work, is happy and well, myopia not increasing. Her astigmatism was corrected and her myopia undercorrected. She has sent me more patients than any other person.

Three great surgeons assured a patient living over 10,000 miles away from me that she had *conical corneas*, and that it was incurable, and that she would be *blind, blind, blind*, and soon. They did nothing for her, said nothing could be done. She was given perfect visual acuity by glasses and is still doing a vast amount of work for her people. She did not have conical corneas, but did have the highest hyperopic astigmatism I have ever seen or heard of.

A young man had a macular hole burned out in one retina by a *high-tension electric current* rendering that eye wholly blind and hopelessly so, for central vision. He and his father were being impoverished by the expense of long hospital treatment with useless serum injections. Correction of his ametropia in the healthy remaining eye immediately made him capable of resuming work and making a living for himself and family. If one of thine eyes offend thee, hopeless of cure, do not "pluck it out," but make the other eye capable of lifelong labor.

A highly skilled mechanic was going insane from alcoholism and a dozen strong cups of coffee a day. He was working with a death-dealing intensity. Glasses stopped the *decensus averti*.

Amblyopia of the mind may be caused by ocular amblyopia and long-endured ametropia.

Most women of 40 or more think they can *deceive the oculist as to their age*. The capable oculist cannot be thus deceived. He may take refuge in convincing them that "old-age glasses" are sometimes necessary in young people.

The man who has been in an *insane asylum* for some years doesn't give you his age correctly. He deducts the hidden lost years.

Several good and successful physicians, and their wives also, have told me that dur-

ing many years of *childlessness* and hunger for children, conception followed soon after securing spectacles which stopped severe migraine, and other ill-health. I was compelled to say this.

The mounting of the *mortality and the morbidity rates* when *presbyopia* is added to previous ametropia is astonishing. The very death-rate and length of life, are still largely determined by loss of serviceable vision. The habits formed in the dark ages when incapacity for work meant death are still present. When presbyopia came at 42 and 43 the worker in many callings had to stop, and had soon to die. There are even now, for six years, beginning at 43, 60,000 more deaths in 100,000,000 born than in the six preceding years. The average age at death of Americans is 43, and alarmingly increasing. The proportion of our people living in cities has increased 131 per cent.—all of which shows the evil results of presbyopic and other ametropic reflexes. The pensioning systems of our times often only prolong the uselessness of old age, and continue a preventable senility. Instead of pensioning systems we should at least do what is easily possible, provide suitable and beneficent occupations for the superannuated. Despite sentimentalism and false charity, there is not a blind person, for instance, who cannot earn or be soon taught to earn his own living, and be the happier for it. Many blind mechanics in a hundred diverse callings are making good livings, to the shame of "tin cup men" and street beggars—if to these, indeed, shame were possible. Examples are: Farmers, typists, real estate dealers, nut-and-bolt makers, rural mail deliverers or carriers, servants, wagon-makers, watchmen, peddlers, teachers, senators, politicians, business men, etc.

The seemingly disproportionate incidence of injury to the nervous system is under-

stood only when we know that most so-called *nervous diseases* are in reality the products of ametropia. A deep insight into actualities is given in this little table of the working days lost by patients at one asylum:

	Men	Women
Infections	66	373
Poisonings	1,259	.....
Malnutrition	2,773	7,861
Skin, muscles, joints...	5,177	953
Nervous disorders.....	44,965	25,075

Thus nervous diseases alone caused nearly four times as many lost working days as all other diseases combined.

Disease is just as *individual* as the patient himself.

Patient No. 1757 wore the *same lenses for 40 years*. Cataract operation, right eye, had been a failure and the eye was blind. His ametropic error in the other eye was at a guest about -S. 10.00 -C 3.00 axis 180°, giving him about 2/5 vision.

Patient No. 210 had "*A stroke*," and *blood-pressure* of 210, and was "going to pieces" with long illness and many physicians. He was sent away at last "to rest up" and to be rid of. The eyes looked in several opposite directions but never binocularly. He was in despair at having to throw up his great business. Scientific spectacles neutralizing his high compound plus astigmatism brought his blood-pressure down 10 points a week and he soon went home well to resume business.

Case 1437 was that of a woman of 32 who recently wrote letters of good-bye to her children and was about to commit *suicide* by inhaling gas. She "had sewed all the time," "never saw right," had had headaches all her life, neuralgia or neuritis for years, indigestion, nausea—and the rest, and was very weak. She had between 5.50 and 6.50 D. of compound hyperopic astigmatism. All symptoms soon vanished, and she is now well and living!

Case 1685, aged 3, had of each eye 6.50 or 7.00 D. of compound hyperopic astigmatism. So hypertrophied was his *accommodation* that deduction of 1.25 had to be made from his static to enable him to see well at any distance.

Case 1396, a man of 41, with all the aches and "itises," apparently, of the text-books, had nearly complete *paralysis of accommodation* of the left eye, caused, so he was told by long use of a cycloplegic in the eyes long ago. The other eye was perfect in accommodation power and required no added sphere with which to read beyond that for his beginning presbyopia, but the *accommodationless eye* was given a nearly full presbyopic segment.

The *good prognosis*, generally, as to relief of the common eyestrain-caused diseases, is certain, and will follow if the patient has not answered the tests with *malice prepense*, and has obeyed orders and advice; but with two conditions: First, that the patient has not been *surgicalized* half to death; has not been *rest-cured* or *sanitariumized* to inanition; nor *hospitalized* to a jelly.

Speaking of pneumocephalic surgery reminds me of the procedure of one famous gentleman whose patient had severe and chronic pain beneath the inferior angles of the scapulæ. An inch or two of both tips were cut off! The woman's sufferings were of course doubled in intensity—until she got a pair of good spectacles.

Spectacles for Soldiers.—They are useless! But that means only that many soldiers themselves who need spectacles, but cannot wear them, should not be allowed to become soldiers. All marksmen who have a subnormal acuity greater than 20/40 should be put to other duty than on the firing line. They cannot hurt the enemy much nor keep from getting hurt themselves. The soldier cannot wear spectacles when on active duty, because fog, rain, sweat, etc., cloud the glasses and worsen acuity of vision both for near and distance. His bullet is wasted without glasses, and his glasses will soon be clouded or lost. Such a soldier may, of course, be put to duties other than shooting.

Notes Concerning the History of Reflexes.—The discoverers of the truth that certain

ocular and systemic diseases are caused by ametropia should be rated as among the greatest benefactors of the world. Sometimes this will be, but probably not very soon. So far as I can learn, the first man, and his date, who discovered the truth was Halfort. His book was published in 1845, and entitled *Entstehung, Verlauf und Behandlung der Krankheiten der Kuenstler und Gewerbetreibungen*. It is the first time that artisans (whose labor is so greatly ocular) are thus emphasized as so decidedly subject to occupational disease. The author, concerning straining of the eyes in industries, speaks of the now forgotten truth that the eyes are most delicately constructed and noble organs of the body; he emphasizes the reasons for such strain as follows:

1. By long continuing looking at small objects, mentioning, especially watchmakers, typesetters, embroiderers, lacemakers, miniature-painters, manuscript copyists, engravers, etc.

2. Work with harsh colors, or upon highly illuminated objects.

3. Labor under poor or fluctuating illumination, such as by flickering oil or candle lights, and even with good lights if long continued.

4. Sudden change from darkness to light. The diseases resulting from these abuses are thus listed:

1. Shortsightedness from work on minute objects.

2. Inflammation of the external parts of the eyes, and later of the internal parts, leading to loss of vision and cataract.

3. Visual deterioration, amaurosis, deep-seated pain of the eyes, more frequently intense headache, etc.

Spectacles and hygienic precautions are recommended to obviate the foregoing ills. The nervous irritability, etc., of yarn-spin-

ners is emphasized. And there, forgotten or ignored, this wise old observer is left.

I think this discovery one of the most remarkable in the history of medicine. But as always it was long in advance of the time possible for acceptance, and so the great discoverer had to die without a single person in the world crying him *Amen!* That's the way with medical men—one to discover and all the rest to ignore, perhaps to curse.

In 1867, Dr. Green of St. Louis, wrote that astigmatism was an active cause of myopia.

Then in 1874-1875-1876, Dr. S. Weir Mitchell of Philadelphia, published three articles. Halfort and Savage were of course unknown. Mitchell's reports were based upon those of the contemporary oculists, Drs. Thomson and Norris, of eight cases of headache, migraine, giddiness, etc., which were at once cured by glasses. To these two men, therefore, the honor belongs, rather than to Mitchell. But, as before there was again a silence which seemed destined to endure forever. The rest-cure was invented. But of all unholy things it may not be endowed with eternal life. The planned silence, with the necessary forgetting, and all the rest-cures in the world, could not keep the truth from re-emerging, and from 1885 there began a series of witnessings to the fact, ever growing in frequency and power, and the number of oculists and physicians and patients who in no wise will be snuffed out or sneered down forever.

In 1882, Dr. G. C. Savage published an article in the *Medical and Surgical Reporter* in which he reported cases of sick headache cured by hypermetropic and astigmatic glasses.

In 1888, Dr. G. Martin, a French oculist published his sound and brave article on the subject. Up to that time it was the best

and most complete demonstration that the whole migrainic symptom-complex is caused by eyestrain. But again, no oculist or physician ever gave him a word of recognition. Schmidt-Rimpler scorned Martin's contribution and theory with genuine unscience. But by this time others were welcoming the truth which was fast passing into recognition after the usual and necessary condemnations and silences of 40 or 50 years.

Ametropia and National Psychology.—The phylogenic datum of visual function which comes to the ontogeny, is the idealized average and epitome of all past experience that has been true and useful. The errors, the misfits, the untrue experiences are excluded, for the phylogeny is composed of the truths, not of the blunders of past individual experiences. When, therefore, the imperfect eyes of an ontogeny send in false and misphotographed pictures and judgments, they do not synthesize with the decisions of the whole past and the result is that, if constant and too preponderatingly untrue, they are either excluded as the guides of innervation and action, and the organism is saved, or they are denied entrance, which means that the ontogeny in this part is excluded. Such an ontogeny may be an individual, a community, or a nation, a sect, or a world-religion, etc. In other words, visual perfection and accuracy is the guarantee of success in games, especially in the modern popular ones—baseball, football, cricket, fencing, governing, teaching, business, and war; life itself, and the least failure in ocular accuracies, decisions, and innervations at once give the victory to the better eyes. It is exactly so in the greater games of intellectual, ethical, artistic, manufacturing, and governmental rivalries.

The conclusions practically narrow them-

selves down to a decision as to which one of two ocular defects, hyperopia or myopia, each including and modified by astigmatism, is the least harmful, or which is the best guarantee of victory in the national games of success, in peace and in war. Nations, we now know, even a whole world, must be either succeeding or failing in the conserving rivalries of peace, or in the destructions of murderous war.

My conviction is that vision has been the greatest stimulant of intellectual and physical development, the greatest supplier of the objective data of mentality and, therefore, has been the chief source of the fundamentals of character. Memory, in a large way, personality itself, are the condensed essentials of visual pictures and laws. We are the soul of what we have seen. I, the ontogeny, am the last link of the chain of the concentered visual experiences of the phylogeny, and also the passer-down to the future of the library of the experience of the race which we call the soul, or psyche.

If this is so, the perfections and imperfections of visualization play a mighty rôle in the forming of our individuality, character, or spirit, and, also, in dictating the way we look out upon, and conceive the world in which we live.

If now we class astigmatism with the two spherical defects, the minor spoiler of accurate vision, we have two great ocular abnormalities remaining—hyperopia and myopia, or colloquially, farsight and nearsight, and the median, emmetropia. But the perfect or ideal eye of emmetropia, in a strict sense, is almost unknown. I have never seen a pair of emmetropic eyes. In some few the defect is indeed slight, but never inconsiderable. The great majority of eyes are hyperopic, but are practically worsened by more or less astigmatism.

The moderately hyperopic pair of eyes is, therefore, manifestly the better instrument for rightly seeing and knowing the world in which we live. The man or nation having a low degree of hyperopia and combined with the least astigmatism will come nearer seeing the world as it is, and he will in general have the most accurately functioning mind. Other things equal, he will make fewer blunders, be more efficient, and better serve humanity and civilization, whose glad servants we should all be. This low degree of hyperopia has, furthermore, an innate power of "accommodation," as it has been called, which often and generally makes it functionally even better than the most rare emmetropic eyes for common visual purposes. Consequently its range of approximately accurate vision is the nearest perfect that is possible. Therefore, that people, especially its educated and ruling classes, the majority of whose eyes are slightly or moderately hyperopic are the best seers and knowers of the world, *i. e.*, they have the best minds ethically and intellectually wherewith to lead in civilization. And they will see and know the beautiful and lovely in that world better than the more ametropic nations.

Thus the two most numerous and dominating errors of refraction will roughly differentiate and govern the direction of national types of character—that is, a nation will roughly tend toward farsightedness, ocularly and mentally, or toward ocular and mental nearsightedness. The excellencies and faults of the visual organs will in time and in proportion to their relative prevalence direct national habits, energies, developments, efficiencies, and deficiencies, in certain directions, and to successes or failures of peace, or to tragedies of war.

What are primarily the essential func-

tions and results of vision? Clearly and primarily to condense the spatial and geometrical facts of the world into the terms and reactions of muscularity, mentality and personality. Geometry is the eldest son of ocular and intellectual begetting. Think what happens every instant of our waking life from childhood to death! We play, work, fight, handle, step, write, read, think, etc., with unconscious celerity and accuracy by what the eyes tell us of manifold facts and movements and spatial relations between the world out there and its ideal epitomization within. All geometry is ocular in origin, and the successes of athletics, games, fights, personal or national are gauged and assured, instantly and unconsciously, by the perfections and epitomizations of the geometrical sciences and arts we call the mind of man. It is a geometric product, primarily, but at once an innervating and muscular inciter and controller of all bodily action. Scores of muscles and actions and correlations are carried out by vision every minute of our lives, instantaneously, accurately, unconsciously, whereby safety, success, and life itself are insured as if by an omniscient and cunning divinity within us.

We know the effect which Turner's astigmatism had upon his pictures. A one-eyed man cannot fully realize what is meant by stereoscopic vision; and a landscape will appear different to him from what it does to the two eyed.

Visually, emmetropia is the grey half-way between day and night, with not too much or too little of effort, or of want, or of satiety. And few there are that reach that island of dreams.

If impossibly it should be the rule of a nation, it would develop fairly well-rounded minds, good folk, but occasionally with a

dip towards good-for-nothingness; somewhat indolent of will, philosophic, self-contented; moderately well-to-do and successful, with a kind of sleepy science; literary but not overmuch so, mildly poetic—in blank verse, but preferring a monotonous and lethargic prose somewhat after the manner of Pater. It would keep out of war or try to do so, because it would be governed by lukewarm and self-respecting emotions and foresight.

A nation of moderate hyperopes would be the best visualizers in the world, capable always of easy and accurate farsight, but when wishful or from necessity with "accommodation" capable of as clear and perfect vision of the near thing as is desirable. It commands the healthiest eyes, and the most accurate and most enduring vision. But best of all, it images the world of fact the nearest perfectly of any visual mechanism. And the perfect glasses of the hyperope (which he can and usually would get) do not change or depreciate the appearance of the actualities of the world or morbidize the mind by distorting or magnifying, or belittling the retinal pictures or their ontologic storehouse—the mind. The moderately hyperopic eye is that first of the American, with the English as a close second.

What now is the peculiarity of myopic eyes, and their vision? It is simply that the distant thing is by them not seen at all, or is minimized beyond all clear seeing and actional relation to reality. The myope looks, as it were, thru a reversed opera glass, or field glass, and *per contra* the person who thus looks finds himself the largest thing in the world. Hence a mental thaumaturgy that creates self-esteem, egotism and self-will, reaching in the worst cases to dogmatism and tyranny of the extremest

kind. In one country the harsh treatment of school children makes the suicide rate of the little browbeaten sufferers the greatest in the world. This same country would naturally bring into being the most terrible despotic military machines, armies, and wars, since the days of Rome, a worshipped ideal, of 1800 years ago. All of this is caused or enormously exaggerated by the fact that as regards their oculists' practice, they ignore astigmatism, use spectacles that turn hyperopia into myopia, and that soon enormously increase the unnecessary degree of myopia. This deprivation of ocular farsightedness works its natural result in the national psychology, dictated by the fact that the great majority of its educated and ruling minds, 60 per cent., by actual statistics, more I am sure, are highly nearsighted. Consequently, it was natural and inevitable that whether in statesmanship or war, in ethics or religion, in literature, or science, they would teach, and rule, tyrannically and harshly. They would abjure the humanistic side of learning and "go" in for materialistic science. They succeed for a time because dictators and warriors see themselves as giants, their enemies so small and contemptible. Enormous egotism would be the chief characteristic, followed by lust of power. They would be infinitely capable in meticulous accuracies, things microscopical and chemical, but bunglers in far-off visions and truths—dead spiritually and religiously.

(THE END.)

Operation for Treatment of Ectopia Vesicæ.—The operation employed by Roberts (*Lancet*, May 28, 1921), consists in transplanting the ureters directly into the rectum thru its anterior wall above the level of the peritoneal reflection of Douglas' pouch, the general peritoneal cavity being shut off by suture before opening the bowel.

THE APPLICATION OF THE BINET-SIMON TESTS FOR INTELLIGENCE TO PATIENTS BY THE GENERAL PRACTITIONER.

BY

THEODORE W. SCHAEFER, M. D.,
Kansas City, Mo.

Societas Gentium Latina, Int.; Society of
Forensic Medicine, New York City.

One of the most practical and applicable sciences is the one that treats of the knowledge of human nature. Every physician should engage in the study of human nature. He should have a thoro knowledge of psychology, which is essential to the practice of medicine. Every patient should be submitted to psychoanalytic tests respecting the estimation of the psychical equivalents of the patient's ratiocination, which fortifies the physician in his mental attitude toward the afflicted. A psychometric determination would enhance at once the viewpoint of the physician firmly establishing his mental *status quo* with security. This psychologic determination, correctly applied, means: Success, confidence, money, health and many other acquisitions, material and immaterial. The conception of a knowledge of human nature embraces two very different sources of information which are fundamentally connected. A general knowledge of human nature respecting man's necessities, inclinations and weaknesses or frailties and those applicable in a certain measure in the form of a diagnostic knowledge of human nature, contributes to the appraisalment in the estimation of man's character, mentality, trustworthiness, ability, fitness, veracity and deceit. The physician should make a thoro examination of the patient's physiognomy at a glance. Its index is the mirror of his soul. The enunciated words guide him respecting the pa-

tient's intelligence. A knowledge of the people collectively, that of the mass, the public, is the fundamental requisite stipulation for every commercial or artistic success. This knowledge of mass psychology, of the anthropologic panmixia, confers on him a keen insight into herd instincts, herd morality and herd impulses. A general knowledge of the people and of the human society at large is acquired by a study of the successes of the widely embracing mental movements. This is enhanced by the deportment of people toward danger and calamities and it is not so apparent by the observation of the typical features in individual persons which are similar in character that are entirely different. This knowledge of human beings so necessary in an expanded degree in politics, is required in production, commerce, literature, and the different branches of the arts, if they expect to flourish. Man is concerned in all these ventures. The humiliating acknowledgment is proven for production by the fact that the most universal is certainly the most lowly, that it is likely to be devoid of differentiation and that, therefore, every production, when compared on the whole, has the widest operation in the lowest sphere and with the greatest returns. The most disseminated is the lowly, because it is the most ancient which reverts by heredity to primitive epochs. From this follows the resulting leveling of the great mass. The higher human beings, the respectable minorities, that is, the rarer ones, disappear in the great human mass, provided they are not exceptionally gifted with voluntary and dynamic powers, *i. e.*, with controlling and ruling abilities. It is evident that self-cognition can never be developed as a complete knowledge of human nature. All great possessors of a knowledge of human nature who use their ability in studying human beings, ob-

serve but one characteristic mental phase in people: It is their behavior and, in connection therewith, the consequences or results of their behavior in which in some manner or other the typical impulses are portrayed. The psychical events are displayed to the observer in a manner similar to the operations of a watch. Man, like the animal, says Le Bon, has a natural tendency to imitation. He constantly repeats himself in his acts. His lapses are ever repeated in a vicious circle. Nature, always copying herself in man's descendants, is the biologic law called heredity. Congregating in the offices of specialists are microcephales, megalcephales, hydrocephales, mongoloids, strabismics, Aztec types, saddle-noses, steeple-heads, and other cephalic malformations or monstrosities too numerous to mention. Admixed with these we observe a display of feeble-minded, imbeciles, cretins, myxedematous subjects and psychopaths in discomfiting numbers. Indeed, the number of mentally defective anomalous persons in our midst occurs in an alarming degree. Even Hippocrates gave consideration to the psychology of the patient and called special attention to the fact that psychical influence is necessary in the treatment of the disturbed bodily conditions. The writer is convinced that an essay on this important subject is needed by the general practitioner at the present time. The writer and many general practitioners have examined their patients psychologically in an empirical manner according to their attitude of mind and knowledge of psychology. Each one has made these examinations according to his own ability and experience. Naturally the personal equation, so-called, plays a great rôle which gives to it a commanding and controlling position, thereby bringing the physician's personality into prominence. Since the publication of the

"Binet-Simon Method for Measuring the Intelligence," it is opportune that physicians will make practical use of the methods of psychoanalysis—a kind of soul-chemistry—so to speak, of the individual, just in a similar manner as in the case of the chemistry applied to matter. Many of the failures in treatment are largely due to the fact that physicians have been too lenient and even careless in examining the mentality of patients. It should be remembered that physicians are daily in contact with morons and mattoids. Many a surgical operation becomes a failure and often ends in disaster because the surgeon has neglected to make a study of the mentality of his patient. The physician and surgeon should be exceedingly cautious and circumspect in not losing the protective *point d'appui* which is so highly important in the outcome of the successful management and treatment of patients.

"Know thyself" was a Delphian inscription over the temple of the "Knowing God." It is an absolute precept which expresses the nature of the mind. Every physician should engage in self-cognition, one of the severe tests of the individual mind. Reinforced with this requisite we study the confronting minds in all their phases, moral, intellectual and volitional. Self-study is the first requisite of the physician. It fortifies him in his mental attitude when dealing with humanity whose utilitarian and altruistic ends are his aim. Among the lower classes and many prejudiced persons in this country, attention to medical art is still considered a menial occupation and unworthy of recognition. This is a primitive or tribal heritage. Humanitarian dispensations are unappreciated by primitive stages of culture. Among the aboriginal degraded people the grossest superstitions prevail and religious idolatry or fetishism raises its unabashed

head. Out of these primitive practices only retrogression follows. No advancement and no particular good, except that which is bad, seems forthcoming. In the treatment of disease, if the physician be well acquainted with the psychology of his patient he may obtain excellent results by psychotherapeutic means. The patient is suggested to by the physician and the treatment is the vehicle of this suggestion. The therapeutic application must be associated with a very pronounced psychotherapeutic action on the patient's mind. Indeed, every mode of treatment which has a strong psychic factor behind it and which is used by an intelligent physician who has confidence in himself, fosters in his patient a psychotherapeutic factor of cure. The *point d'appui* of success must go hand in hand with a corresponding parallelism of the mind and body. Physicians should give more attention to the study of psychology than they have done in the past. The physician should engage in a comprehensive study of the psychology of the people respecting language, mythology, customs, morals, religion and politics. It is, indeed, a very lamentable fact that they have neglected the study of psychology, which is so exceedingly necessary in the art of human approach. Psychology, in fact, really belongs to medicine and not to empirics nor to a cult. It has drifted into the hands of pretenders, tyros and vagarists who have no standing in the world of education, who are reactionary and visionary in regard to the sciences, narrow, bigoted and ancient in metaphysical abstractions. They are unaware of the fact that they are following traditionalism of oriental occultism and mysticism. The physician when treating disease should ever remember that he is primarily dealing with the nervous system—the mind. This brings the whole scope of the operations of the living body

under the determinative corresponding influence of the parallelism of the mind and body. The writer is becoming more and more careful in the dispensation of his services and refuses to treat any and every perambulating moron and mattoid who imagines that he is the physician's equal in intelligence, not showing the physician the proper respect and recognition to which he is entitled in society at large. In endeavoring to attain the utilitarian and altruistic requirements the physician promotes the welfare of mankind. In striving to attain these ideals he performs the functions of a humanitarian and philanthropist, for which he receives but little gratitude. Much is expected of him. He is expected to be a doctor of the mind as well as of the body. It has always remained an unsolvable paradox to persons of culture and refinement why a profession so self-abnegating as ours, devoting so much time and energy in rendering charitable services to humanity, should be rewarded with so much ingratitude. Indeed, it is a fact that the physician receives but little of this world's goods. Should a doctor have the misfortune to get into legal trouble, ten to one the fickle and ungrateful public will be arrayed against him. Even his supposedly best friends leave him when he needs them most. He is at the mercy and whims of a judge and the prejudices of a jury. A lawyer, however, in a similar plight, stands a far better chance for he has taken the "immunity bath," because he is autonomous, being an officer of the state and belongs to the ruling caste, whose fixed idea is the "law" and the beneficiary of the forensic political status which has no super state.

By way of digression, let us consider the factors which are inimical to the welfare of the physician when he is confronted by the

low herd instincts and impulses. It naturally behooves the physician, because of the deep-seated wickedness and utter depravity of the masses, that he should act in a firm manner. He should never allow his feelings to supersede his intelligence because the patient in all probability would abuse his confidence. This inflexible firmness is the mightiest barrier against the impudent demands of those who, in their naked selfishness, are thinking only of their own interests and do not respect the rights of others. The physician should be a realist who should understand the worship of the god of things just as they are. He should look at human problems without affectation and sentimentality. He should quit all useless maudlin sympathies and foolish emotionalism which do not help him at all in the struggle for existence. The trouble with the medical profession has always been its eudemonistic claims of exclusive humanitarianism. Coupled with its extravagant utilitarian altruism it has drifted aimlessly upon the sea of emotionalism. It is a fact that the general influence of the public upon the medical men as a class is really degrading rather than ennobling or activating to great endeavor. To the metaphysician these psychologic phenomena of man are indeed very plain. To the metaphysician it is apparent that there is something wrong in the very nature of man's entire psychologic make-up. In fact, this is to be expected for even from an anatomical standpoint, man is an imperfect being. To begin with, there is a cruel, deep-rooted streak which permeates human nature that makes every metaphysician ponder with an uneasy feeling and foreboding respecting man's constantly reappearing atavistic traits that lie deeply hidden in his very nature. The traditional prejudices and hostility, coupled with jealousy that permeate our social body

and that have been inimical to physicians, have been ignorantly fostered as a heritage for ages. Human nature is and has been the same thruout ages. Indeed, man is not at all wholly a rational being, as his controlling opinions and religions do not rest on rational considerations alone, however plausible these may appear to the crass multitude. Viewing man with an impartial and a critical attitude as he really is and not as he should be by divine intention, the physician realizes more and more that he is in the midst of a sinning and sin-sick world, more so than the lawyer or the minister. Apparently, each one has his own ethical or moral standard. It behooves the physician who lives in this anthropologic chaos to acquire a grasp of the social problems and a self-protective rule of conduct. In this world of ours, things are just as they are and absolute standpoints do not not exist in actual life. The reader should refer to the classic dialogue between Candide and Martin in Voltaire's work:

Croyez-vous, dit Candide, que les hommes se soient toujours mutuellement massacrés comme ils font aujourd'hui? Qu'ils aient toujours été menteurs, fourbes, perfides, ingrats, brigands, faibles, volages, lâches, envieux, gourmands, ivrognes, avarés, ambitieux, sanguinaires, calomniateurs. Qu'ils debauches, fanatiques, hypocrites et sots? Croyez-vous, dit Martin, que les éperviers aient toujours mangé des pigeons quand ils en ont trouvé? Oui, sans doute, dit Candide. Hé bien, dit Martin, si les éperviers ont toujours eu le même caractère, pourquoi voulez-vous que les hommes aient changé le leur?

The more we study man psychologically with critical caution, the more he becomes a profound enigma. However, to the philosopher and psychologist there is one working formula in life—to exercise caution in

the confidence of people and in the supposed superiority of knowledge of man. Many of the psychologic phenomena just described are easily explained on the supposition that the aims and desires of the so-called public conscience are of a more lowly nature, being much more primitive and simple than those of the individual; a large number of persons agree that in general the common level of the lowest must be adequate to them. Many faces are like masks which can only be removed and uncovered by language. The ochlocratic masses show their aversion and hatred toward intellectual superiority. According to Le Bon, the civilization of a people is based on a small number of fundamental ideas. The most chimerical ideas have had the most fanatical following. It is not in the pursuit of truth, but in that of error that humanity has expended the most efforts. The masses have never thirsted after truth. Our body social is suffering from the presence of a depravity of human types that are beyond redemption. The moral decadence or degeneration is characteristic for the present times. The masses have degenerated into materialistic perverses; they have an exaggerated love for pleasure, they are money-worshipers, utterly devoid of religion and morality, without God and a hereafter. Our population lacks homogeneity, because it is racially heterogeneous, lacking the stability of coherence, because of its perversity. The crude masses are led by tribal, fetichistic ideas. The crass psychology of crowds does not justify the optimistic and visionary views of half-educated chauvinists. It is an undeniable fact that the masses have been retrograding morally and intellectually in recent years. There is a corresponding intellectual shrinkage. I adjure you to be careful whom you trust and whom you believe. Follow the Latin maxim that every

remark should be taken *cum grano salis*! Credulity is the vice of sincere and honest persons. In his professional intercourse with his patients, the physician should be circumspect. He should maintain by all means his equanimity, integrity and security of person. He should preserve his dignity and not become too affable and confiding to his patients, for primitive mind is likely to take advantage of this and either rob or destroy its benefactor. In primitive society, acts of beneficence and predatory acquisition are undistinguishable to the aboriginal conception and conscience of right. The doctor is likely to be insulted, persecuted, robbed and even murdered by avenging creatures in human form. It is in the very nature of man to be cruel. Indeed, physicians have suffered from this cruelty. Cicero aptly remarks: *Est hominum naturae, quam sequi debemus, maxime inimica crudelitas. de off. 3, 11.*

During the early border ruffian days, my uncle, Dr. Edward Wernigk, now deceased, was practising medicine and surgery at Denver, Colo. He was called to attend an outlaw, who held up a stage coach, but who was rendered *hors de combat* by a bullet which produced a compound fracture of the ankle-joint. One day my uncle was dressing the wound when he felt his pocketbook nimbly and deftly removed from his hip-pocket. He said nothing because the unfeeling outlaw had two army revolvers under his pillow. Of course, my uncle was never paid for his services! Reader, draw your own conclusions! Doctor, what would you have done? Physicians have suffered in their social standing by the iniquities and jealousies of a professional caste seeking exclusive supremacy. The human soul is always and everywhere the same whether it be in the exalted position of the state or the low mass intelligence of the crowd. The

"State" is simply a crowd (Arthur Christensen), being composed of an assemblage of individuals whose group instinct is not at all above the impulses of crowd morality. The government, being composed of an assemblage of human beings, behaves just like an individual, only worse, and its ruling components often become uncontrollable and incorrigible like an unruly child or person who runs amuck, thus endangering the citizens. There are no regulations to curb these unruly politicians! Our system of government lacks a super state or a higher moral authority over the ruling caste, which is immune and autonomous. A political check is an order that would impose restrictions on them the same way as the state, *pari passu*, deals with the individual, submissive citizens whom it aims to control by fear and power. It is by the obsession of fear that the political automaton endeavors to hold his assumed prestige. Petronius Arbiter says: *Primus in orbe deos fecit timor*. Instead of advancing the betterment of mankind they have contributed actually to the retrogression of all kinds of governments, because they have conducted governmental affairs like political impostors. It is more than two thousand years since they have been running the governmental machines. Since the foundation of our government, a coterie of a self-constituted professional caste has an exclusive monopoly of all the chief governmental offices, entrenching itself in power by feudal privileges and perpetuating a system of selfish office tenure superseding all other incumbents who are aspiring to political prominence. This group aims to control the political and governmental activities as a benefice to the utter exclusion of others. Laws are made for its own benefit and from which it derives all emoluments. The medical profession has not at all fared well

economically under this one-sided régime. Class laws or drastic prohibitive edicts have been instituted against the medical profession. Of course, no laws have been made to injure the standing of lawyers in the eyes of the public. Fanatical laws that are prejudiced to public interests have been aimed at doctors. When the state is most corrupt, the laws are most numerous (Tacitus). The strictest administration of law is often the greatest wrong (Terrence). That which unites man in the state is an inner event. One will acts upon another will. The point of gravity resides solely in a voluntary organization. The state, the law and the lawyer are essentially voluntary, not intellectual entities! State morality is tribal morality. It is not progressive. It constantly reverts to primitive impulses and thus endangers society at large by its explosive acts of rowdiness when combative. The time has come when this feudal relic should be eliminated forever. Why should we have a political caste or camorra which should rule this country by edicts, called "laws"? The forensic, autonomous automaton's prerogative to visé and circumscribe the doctor's sphere of usefulness is arbitrary and it is about high time that such meddlers be turned out of office. They have but a very slight capacity for reasoning and are guided in the main by unconscious sentiments. Speaking of this entrenched clique the Frenchman, Henri-Robert, aptly remarks: *Napoleon n'aimait pas les avocats. Il disait qu'il fallait leur couper la langue. Il est vrai qu'il ajoutait: aux avocats qui s'en servent contre le gouvernement!*

It is a noteworthy fact that the most intelligent, highly educated persons have shunned the pursuit of politics. It is for this reason that we have no statesmen! Only the representatives of the lower hu-

man strata, who do not possess at all the inner fundamentals which are so essential for higher political endeavor, make selfish efforts to push themselves into the foreground as "leaders" and "orators." Deplorable conditions of a widespread illiteracy and ignorance exist in this country. The United States occupies the low, humiliating, educational position of being the ninth in rank among the nations. According to H. H. Goddard and other psychologists who have examined the human panmixia, our population is classifiable respecting its intelligence into seven grades. Seventy per cent. never exceed the mental level of a school child whose age is fourteen years! Ten per cent. are classified on the level of a ten-year-old pupil. A small group—four and a half per cent.—attain the mental level of a student at the age of nineteen. This, Goddard regards, as a superlative standard. Dr. H. Sheridan Baketel remarks that this kind of research throws a strong light upon the ease with which the American people can be preyed upon by politicians and other shrewd gentry, who, long before psychologists appeared upon the scene, had their own occult and intuitive methods of gauging public intelligence. According to psychometric investigations of Dr. Henry Viets, six persons in every ten, happily unconscious of the fact, are meandering thru life with the abridged mental equipment of childhood—and paradoxical to say, many of them are placed in positions of comparative prominence. They are morons, these members of the seething majority, with intellects beneath the normal standard for nineteen years, belonging to the more intelligent. The morons are intellectual delinquents. Ten per cent. of the panmixia are composed of mattoids, who, altho they may possess a good proportion of intelligence, are emotionally erratic, very

much like paranoiacs! They are often the occupants of our highest positions and are a menace to society at large. Axel Oxenstierna, the prime minister of Gustave Adolph of Sweden, made the interesting remark that it does not at all require a high degree of intelligence to conduct the affairs of the state—a historical observation. Governments have been ruled by mediocrities and weaklings. The great leaders in politics have been of lamentably narrow intellect, frequently astounding one by their incoherence. Le Bon says that it is precisely those whose intelligence has been the most restricted who have exercised the greatest influence. From this, follows the inevitable moral deduction that state morality is primitive tribal morality and its influence upon the masses is not ennobling, but actually stultifying to higher endeavor. The state is an incarnated materialist and exceedingly mercenary. The moral standard of the state is not high. It is not a model for its citizens. We demand a higher intelligence and morality of the state.

There is no question but that the world would be far better off if physicians and philosophers would administer the affairs of the government. The physician is certainly better fitted, because of his long educational preparation to participate in the deliberations of the state. He is better qualified, because of the possession of superior intellectual attainments. Physicians are herewith urged to create a higher public opinion and that they play an important and beneficent rôle in the affairs of the Nation!

Pain in the Chest or Stomach.—For the prompt relief of deep-seated pain in the chest, stomach, abdomen or kidneys, apply flannel, wrung out of hot water and sprinkled with spirit of turpentine.—*Med. Times.*



RATIONAL ORGANOTHERAPY

Differential Diagnosis of Glandular Dysfunction in Adults.

—Too often physicians have a mental picture of typical myxedema, which prevents them from looking beyond for the atypical but more common manifestations of hypothyroidism. (*Cal. State Jour. of Med.*, August, 1921.) The presenting symptoms of latent hypothyroidism so often direct the attention of the medical observer rather away from them than toward the thyroid gland, that mistaken diagnoses in light cases of hypothyroidism are frequent. Thus the subthyroid patient may consult the internist for failure of memory and the power of concentration, suggesting the cerebral changes of arteriosclerosis, which itself is not uncommon in hypothyroidism. Gastrointestinal symptoms, such as lack of appetite, dragging sensations in the abdomen, or constipation, may send the patient to a gastroenterologist; a thyroid psychosis to an alienist; again weakness and pains in the joints and limbs or flat-feet may cause the orthopedist to be consulted. Yet all the above symptoms may be but expressions of the lack of proper functional activity of the thyroid gland.

One of the most important conditions confused with hypothyroidism in the adult is neurasthenia. This syndrome is characterized by mental irritability and depression, loss of memory and the power of concentration, eyestrain for little reason, great physical asthenia, parasthesias, reflex gastrointestinal neuroses, and vague pains in various areas. Yet each and every one of these symptoms may be expressions of hypothyroidism. In general, it seems that if our diagnostic methods were more refined we would have less recourse to the diagnosis of neurasthenia for want of a more definite ailment.

Of the gastrointestinal conditions, which require differentiation from hypothyroidism,

must be mentioned chronic colitis, which may also occur as a complication in hypothyroidism. The intestinal toxic symptoms of headache, lassitude, nervousness or mental torpor, loss of appetite, a light anemia, cold extremities, low blood-pressure and small, soft pulse may likewise be of hypothyroid origin and lead to diagnostic errors. Two cases of the writer's series had been unsuccessfully treated by others for ten or more years for chronic colitis with intestinal toxemia. After the diagnosis of hypothyroidism was reached, both made astonishing improvement on thyroid medication controlled by the basal metabolism.

Chronic muscular rheumatism, or mild arthritides, may be hypothyroid manifestations. As Kocher first emphasized, the muscular and joint pains of hypothyroidism may lead to erroneously considering such patients as suffering from chronic muscular rheumatism or rheumatic arthritides.

Various cachectic conditions, such as anemia or arteriosclerosis, are mistakenly regarded at times as *sui generis*, when in reality they may be due to subfunctional activity of the thyroid gland.

Mistakes as to the true nature of thyreogenic obesity are common. Application of the usual reduction cures to such cases may lead to profound asthenia. All cases of thyreogenic obesity, as yet observed by the writer, have been accompanied by clinical signs of hypothyroidism, permitting of actual differential diagnosis, if properly appreciated.

The Use of Pituitary Extract.—Many years ago when adrenalin, says an editorial writer in the *Therapeutic Gazette* (Sept. 15, 1921), because of its remarkable effects was attracting the attention of the entire

profession, we pointed out in these columns that it was inconceivable for a substance which possesses real power for good not to also possess real power for harm if wrongly employed. The same statement holds true in regard to pituitrin, a substance which, like adrenalin, has undoubtedly become a permanent factor in the materia medica list. Without doubt, it is often wrongly employed, and when so used, as it possesses power, it is capable of doing harm, but here the weakness lies with the person employing it and not with the drug itself. It is manifest that to use pituitrin in a case of labor before the os is adequately dilated, or when there is some obstruction in the birth canal, is distinctly dangerous. The reported cases of ruptured uterus under these circumstances is a testimony to the power of pituitrin as a uterine stimulant and not evidence that the drug is dangerous unless used in unsuitable cases.

So, too, with our present lack of knowledge concerning its influence upon the other glands of internal secretion, occasional instances in which its hypodermic use is followed by disagreeable nervous or circulatory symptoms is but another indication of its power and another evidence of the fact that we do not know enough concerning it to employ it haphazard.

Its use to hurry a labor, which nature is making slow in order to avoid damage to the mother or child, is wrong, whereas on the other hand, its employment in true uterine inertia in a tired woman with a free birth canal may be exceedingly useful.

Without doubt, its introduction has caused many a physician to avoid the use of forceps, and considering that oftentimes these instruments cannot be used by skilled hands and, therefore, often do damage to the mother or child, it is a nice question as to whether the employment of pituitrin even in cases which are not best suited to its use, in the end does not do less damage than forceps have in the past.

The whole point in this matter is controlled by the facts stated in our first sentence, namely, that no drug that possesses great power can be used haphazard, but must be employed only when clearly indicated and when the contraindications to its use are practically naught.

We understand that in certain cases when it is thought that a perineal tear may be induced by pituitrin, skilful obstetricians now

perform episiotomy, followed immediately after birth by suture.

Parathyroid Gland Substance in Treatment of Varicose Ulcers.—At the beginning, Grove and Vines (*Wisconsin Medical Journal*, Oct., 1921) used the intramuscular injection of calcium chlorid. The results obtained were not satisfactory. Improvement or retrogression of the ulcer ran roughly parallel with the rise or fall of the ionized calcium content of the blood. The second form of treatment used was the combination of calcium injections with the oral administration of thyroid gland substance. This produced effects which were not markedly different from those obtained with the injections alone. Parathyroid gland substance, $\frac{1}{10}$ grain, by mouth daily, was next used, and with this treatment an immediate improvement seemed to take place. The ionized calcium of the serum rose rapidly to the normal figure, and the local condition showed early signs of healing; it was found unnecessary to continue the calcium injections. In cases treated with parathyroid alone, from seven to fourteen days seemed to be the period required for the drug to produce its maximal effect, tho the time taken for complete healing to occur was dependent on the size of the ulcer. One-tenth grain of the parathyroid substance is given daily until healing has occurred, and then twice a week for three or four weeks. The ulcers were covered with plain gauze or boracic lotion, tho in some cases no dressing at all was used. The best results were obtained when the patient was kept in bed. The fact that parathyroid administration has so great an effect in causing these ulcers to heal seems to point to the possibility that a partial deficiency, of the parathyroid secretion may play some part in their causation, and this supposition is strengthened by the fact that the parathyroids are recognized regulators of calcium metabolism.

The Spleen and Its Possible Functions In the Body.—The well-established fact that both animals and man survive the surgical removal of the spleen without apparent serious detriment, according to an

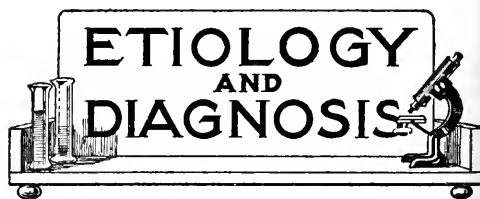
editorial writer in the *Journal of the A. M. A.* (Nov. 12, 1921), at once removes the organ from the list of indispensable structures like the suprarenals, the pancreas or the parathyroids, on the integrity of which life is demonstrably dependent. The intimate association of the spleen with the digestive apparatus and particularly with the portal circulation has naturally led to some speculative impressions. Changes in the size of the organ are known to occur during the digestive cycle; hence the idea that the spleen is merely a diverticulum of the portal circulation to receive the excess of blood rushed to the splanchnic area during the digestion period, and to act as an "abdominal heart" for supplying blood to the stomach and other viscera as needed. Again, the spleen has been represented as "an endocrine organ with the function of influencing, in an obscure manner, some portion of the digestive apparatus by way of the blood stream or of activating one or more of the digestive enzymes by an internal secretion." It is always easy to present analogies to other functions in the body when the known facts do not suffice to establish a direct demonstration of fact. There are many other speculations regarding splenic activities on record, which need not be rehearsed here.

Recently, the possible dependence of certain gastric functions on the integrity of the spleen have been brought into prominence. It has been alleged, for example, that splenectomy diminishes the digestive power of the stomach, and that this gastric function can be promoted by injections of extracts of the spleen. Here is an obviously fertile field for the medical advertiser's imagination. The pepsinogenic function of the spleen has, indeed, often been mentioned as a possibility of physiologic importance. Inlow (*Amer. Jour. of Med. Sciences*, Sept., 1921) of the Mayo Foundation has put some of the questions here involved to the test of experiment, by studying the gastric secretion of animals under carefully controlled conditions before and after splenectomy. He failed to find the slightest evidence that the spleen gives to the blood stream during digestion a substance which activates or leads to the further elaboration of the gastric enzymes, especially pepsin. The only noteworthy change in gastric secretion after removal of the spleen was a slight diminution in the

quantity of gastric juice secreted. This, Inlow contends, is presumably attributable to decreased gastric blood supply from injury to the gastrosplenic circulation after splenectomy. A definite pepsinogenic function, he adds, has not been demonstrated, and the relation of the spleen to gastric secretion is probably merely vascular. A negative conclusion not infrequently helps to secure positive progress.

Pituitary Extracts as Test for Kidney Functioning.

—Brunn (*Medizinische Klinik*, July 17, 1921) has found that after a subcutaneous injection of pituitary extract, the normal kidneys invariably secrete a highly concentrated urine. With diseased kidneys, the specific gravity does not increase after the test injection of pituitary extract, not even when the intake of fluids is restricted. This test is particularly useful with a tendency to dropsy, as the response is independent of extrarenal influences. A further advantage is that the cooperation of the patient is not required. If the specific gravity increases to 1.020 or 1.022, he thinks that grave kidney disease can be excluded. In three cases of chronic nephritis, the specific gravity persisted at 1.012 to 1.015, both with this pituitary test and with test restriction of fluids.



The Etiology and Treatment of Eclampsia.

—Barton Cooke Hirst (*New York Medical Journal*, October 5, 1921) discusses various theories as to the etiology of eclampsia and expresses the belief that the origin of the toxins of eclampsia is mainly in the fetal body; to a less extent in the placenta. When these toxins are thrown into the maternal system, overburdened organs break down, and this is more likely to occur if a heavy proteid diet, an inactive skin and sluggish bowels increase the work they have to do. If one accepts this etiologic theory, there are four therapeutic principles to be considered, namely, elimination, the sedative treatment, measures to reduce blood-pressure, and if the patient is not yet delivered, the operative treatment. Since in every case of eclampsia the patient has an acute parenchymatous nephritis and is uremic as well as toxic, the

writer employs diaphoresis and catharsis, energetically sweating the patient in a sweat cabinet every four hours for thirty minutes and supplying the subtracted fluid by proctocolysis—a quart of water with an ounce of bicarbonate of sodium by the drop method midway between the sweats. He always begins by washing out the stomach and using the stomach pump to instill a purgative, using 2 ounces of castor oil with 2 drops of croton oil. If the patient is able to swallow, this is followed by repeated doses of concentrated Epsom salts solution every half hour until 2 ounces are taken. If there is much edema, 20 grains of compound jalap powder is administered. Anesthetics are not used. Morphine alone is depended upon, but is only administered if convulsions are violent and frequent. To reduce blood-pressure, an initial dose of ten minims of veratrum viride and the subsequent administration of 1/100 of a grain of nitroglycerin every four hours is most efficacious. Venesection is done routinely to the extent of 16 ounces if the systolic blood-pressure is above 180. Operative treatment by Cesarean section is reserved for those cases in which the patient has not responded to the treatment above outlined, and in which there has been no progress in labor. During the last five years in the writer's service at the Maternity Hospital of the University of Pennsylvania there have been 89 cases of eclampsia, with a maternal mortality of 21.3 per cent., and an infant mortality of 36 per cent. If allowance were made for four patients who died within an hour of admission, the mortality rate would be 15 per cent.

Gland Puncture as a Diagnostic Measure.—

Guthrie (*Bulletin of the Johns Hopkins Hospital*, August, 1921) states that, altho a valuable aid in diagnosis, gland puncture has thus far been used only for the recognition of various etiologic agents of disease, bacteria, protozoa, and filariæ. It seemed possible to the writer that the method might be applied to the study of other conditions by the recovery of cellular material for microscopical examination. For the puncture a 2 c. c. Record syringe is used, equipped with a 21-gauge needle, 5 cm. in length. The point of the needle has a sharp bevel and is sharpened each time just before sterilization. Under aseptic precautions, the needle is inserted well into the gland. The syringe and needle are then rotated about their longitudinal axis and the plunger is drawn out to 1 c. c. to create suction. The needle is then slowly withdrawn, negative pressure being maintained thruout. Thus far, this method of diagnosis has been applied in cases of syphilis, tuberculosis, Hodgkin's disease, acute and chronic lymphoid leucemia, acute and chronic myeloid leucemia, simple adenitis, and in one instance each of trypanosomiasis and of metastasis of malignant disease. A positive diagnosis dependent upon the recovery of the etiologic agent was possible in a number of cases. The results obtained from the study of cellular material aspirated from glands is of particular interest. In Hodgkin's disease it has been possible to make a definite diagnosis in all of the

cases examined thus far. The presence of eosinophiles, large endothelial cells, and the peculiar multinucleated giant cells gives a characteristic and usually unmistakable picture. In the cases of leucemia the gland picture has, to a remarkable degree, reflected the blood picture. It is possible that if the blood were in an aleucemic stage and recognition of the disease consequently more difficult, puncture of a gland might yield information of considerable value in arriving at a diagnosis. In simple adenitis the picture is one of lymphoid hyperplasia, as is evidenced by the presence of large numbers of lymphoid cells in various stages of maturity, plus the presence of polymorphonuclear neutrophile leucocytes. The advantages of the method are the following: (1) Rapidity; not infrequently a definite diagnosis may be made in ten or fifteen minutes. (2) Thin preparations like blood films are secured, suitable for the application of a blood stain or special stains for cells, bacteria, or protozoa, and permitting the use of an oil immersion lens in their study. (3) The procedure is practically painless to the patient and leaves no scar. (4) It does not interfere with subsequent excision and histologic study of the gland. The limitations of the method are that from a fibrotic gland very little cellular material may be recovered, sometimes not enough to enable one to make a diagnosis; the cellular picture obtained is necessarily that from a very limited area of the gland; the architecture of the gland is not shown as a rule, altho occasionally a small bit of the gland is removed intact in the course of the puncture.

A New Method of Investigating Gastrointestinal Secretion.—

Dodds (*The Lancet*, September 17, 1921), by taking samples of alveolar air at intervals after a meal, has been able to demonstrate that the tension of carbon dioxide undergoes certain definite changes in response to the amount of secretion poured out by the stomach and the lower portions of the alimentary tract. In later work, in conjunction with Dr. T. Izod Bennett, it has been shown that in normal individuals of varying type the curve of alveolar carbon dioxide tension so obtained corresponded closely with the curve of secretion of gastric hydrochloric acid. The variation in the tension of the alveolar carbon dioxide is explained in the following way: When acid is removed from the blood during gastric secretion, the reaction of the blood tends to shift to the alkaline side. This shifting is prevented by retention of the volatile acid, carbon dioxide, the tension of which rises in the blood, and hence in the alveolar air. Later, when the alkaline intestinal and pancreatic secretions are poured out, the reaction of the blood tends to shift to the acid side, and hence acid in the form of carbon dioxide must be eliminated. This is brought about by a lowering of the carbon dioxide tension in the blood, and therefore in the alveolar air. This method has been applied in a number of pathologic conditions. The samples of air were collected by the Haldane-Priestley method, and the analysis made with the Haldane gas analysis apparatus. The writer

claims the following advantages for this method over other methods in use: (1) The analysis of the alveolar air does not cause the subject any discomfort whatever, hence it may be employed in patients in whom nervousness, or some other general condition, forbids the passage of stomach tubes of any type. It is difficult to believe that in patients in whom the stomach tube and test meal cause considerable discomfort, digestion follows its usual course. (2) The method gives an index of the total amount of acid or alkali being secreted from the blood by the gastric or other digestive glands, and hence is independent of neutralizing factors such as mucus and regurgitation which affect ordinary gastric analyses. (3) It gives a measure of secretory activity below the pylorus, as well as of that of the stomach. (4) The form of test meal is immaterial provided that a fixed standard be selected, allowing comparisons with the curve shown by normal persons after the same meal.



Large Doses of Tincture of Iodine in Tuberculous Glands.—Boudreau, of Bordeaux, several years ago recommended large doses of tincture of iodine in the treatment of chronic pulmonary tuberculosis. Dufour (*Journ. de Méd. et de Chir. prat.*, September 10, 1921), has recently adopted them in the treatment of tuberculosis glands in the neck, and of tracheal and bronchial adenopathies. His method of administration is:—

1. To prescribe 10 per cent. tincture of iodine, without the addition to iodide of potash. It must be fresh, for which purpose only a small quantity is made at a time, 15 grams every 15 days.

2. The dose is given in half-a-cupful of cold milk, with which it is left in contact for a short time so as to allow the casein and iodine to react. It is taken at the beginning of a meal, but if given in wine it is taken during the meal.

3. The susceptibility of the patients must be tested, and small doses are given to begin with. For the first five days, 15 drops are given twice a day; the dose is then increased by 5 drops until 100 to 150 drops *pro die* are being taken. This amount is kept up for eight days, and then the dose is decreased by 5 drops every five days. In children, according to age, the first dose is from 5 to 10 drops *pro die*, increasing to 30, 40, and 50.

4. As soon as the dose reaches 40 to 50 drops, it is divided into three.

5. If any symptom of intolerance is shown, smaller doses are used, or the treatment is suspended for a time, and this must be done

in the event of the pyrexial attacks in tuberculosis.

Treatment of Pruritus Ani.—Pennington states (*American Journal of Clinical Medicine*, April, 1921) that when there are few or no objective symptoms, he finds that painting the region with a 2- to 5-per cent. solution of chrysarobin in traumaticin, once in three to five days, and applying the ointment given in the next paragraph, night and morning during the interim, is one of the best modes of treatment. The application sometimes gives rise to considerable pain for a few moments, especially if there are cracks and abrasions; but this soon subsides. When the surface is dry, after application, he takes a thin layer of cotton, sprinkles it with talcum or some other powder, and places it over the field to prevent staining of the underclothing.

The formula referred to just above is as follows:

Menthol, 3 to 4 grs.

Phenol, 8 to 12 mins.

Zinc oxide ointment

Vaseline or tallow, aa 2 drs.

M. et ft. unguentum. Sig.: Apply locally night and morning after cleansing the part with warm water and drying.

Dosage of Digitalis in Children.—The results obtained by McCulloch and Rupe (*Amer. Jour. of Medical Sciences*, August, 1921) show that between 8 and 20 kilograms of body weight or up to the approximate age of 4 years, children respond more readily to digitalis than do children above this weight and age. It would seem that older children with normal hearts require a larger amount per unit of body weight than is necessary to produce an effect in adults with heart disease. There is considerable variation in the amount of digitalis necessary to bring about a response in the heart of children. They noticed vomiting to be one of the early signs of the effect from digitalis administration, often occurring before there were any alterations in the electrocardiogram. Changes in the electrocardiogram were not constantly found in all the cases in which a digitalis effect was obtained. The most common change observed in this group of children was the appearance of a sinus arrhythmia. Alteration in the size and direction of the T wave occurred in a small number of all the cases.

Infantile Eczema.—The application of salves to the affected area undoubtedly is an essential part of the treatment, according to Floyd S. Clark (*The Nebraska State Medical Journal*, July, 1921). Irritating applications are absolutely contraindicated. Probably best results have been obtained by using the mask as described above and applying underneath that mask, either Lassar's paste undiluted or made less strong with oxide of zinc ointment. Occasionally Clark has found that tar added to the ointment assists in the healing process. For

this purpose he has successfully used the liquor carbonis detergens of the British Pharmacopœia. In conclusion, the following points may be emphasized:

1. Eczema has a wide variety of etiologic factors. It should be our earnest endeavor to ascertain the possible cause of each case of eczema if we wish success in its management and treatment.

2. Certain nursing babies with eczema will have the eczema thruout their nursing career, in spite of the most careful regulation of their food as to time, quantity and quality. The most the physician can hope for with this type of infant is to keep the eczema under control as well as possible, endeavoring to ease the intense pruritus.

3. Food and the metabolism of food plays an important part in producing eczema in infants and children. It may be said, however, that the food tests as applied on the individual baby may or may not be positive in interpretation, but when applying the results of a positive test in a therapeutic way, the eczema does not always improve.

The regulation of the diet in the treatment of eczema is largely the result of practical experience.

4. The control of the intense itching is one of the essentials of treatment. Irritating salves and applications seem to enhance this pruritus and increase the dermatitis. Soothing applications with the addition of an antipruritic are indicated.

Purgatives.—*American Physician* (July, 1921) claims that while cascara is a splendid laxative, it is not a satisfactory purgative and may do harm if long used as such. Salines, exceptionally useful for rapid evacuation, are too irritating to be used continuously for chronic constipation. Severe purging in organic diseases is dangerous. A long list of purgative remedies could well be dropped, or be used in small doses simply as laxatives, aloes being an instance in point. Be careful with podophyllin; it is very irritating. Do not use calomel as a routine. Irritant purgatives have killed many ropsical patients.

Salol is the best intestinal antiseptic, most of the other agents so used being unnecessary. Betanaphthol is often toxic. Dietary changes, the administration of acid-forming bacilli or yeast to change the intestinal flora, or a short starvation period, are advised.

Water is the best diaphoretic, given in the form of hot teas. Pilocarpine is advisable at times, but the heavy doses formerly given are going out of use. Most of the diuretics are inefficient, digitalis and caffeine preparations being most dependable.

Injuries to the Eye in Industrial Plants.—*Key* (*International Journal of Surgery*, December, 1920) notes that the outcome of these injuries depends in a great measure on the promptness with which they are attended to and the method used. It is common practice

around the plants for some fellow-workman to render first aid to these minor cases, especially foreign bodies in the eye. This service is volunteered for the double reason of relieving the pain and to save time lost in quitting work to go to the doctor's office. A saving of an hour in this way often results in the loss of weeks of time, to say nothing of the hazard of losing the eye from an infection introduced by a toothpick or a match stem used by the workman in his efforts to remove the foreign body. A workman's hand covered with dirt and grease is not adapted for doing anything in which asepsis is required, and when attempting it with such a delicate organ as the eye disastrous results occasionally follow. It is not unusual to see an eye, in which attempts have been made to remove a piece of steel or emery from the cornea, with the epithelium denuded over an area several times larger than the foreign body. Such denudation of the corneal epithelium invites the entrance of bacteria with which the conjunctiva is at all times plentifully supplied, causing sometimes an infected ulcer.

The Treatment of Migraine.—Wolf (*North-west Medicine*, October, 1921) claims that cannabis indica, given over an extended period, is quite often of value. A judicious and prolonged course of arsenic is useful in selected cases. Belladonna or atropia can sometimes be used with good results, either alone or in combination with small doses of iodides.

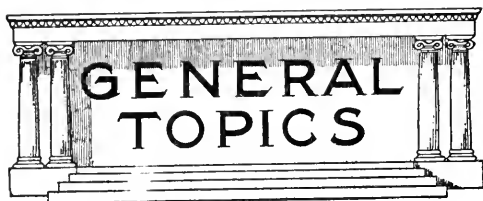
Glandular therapy is still very uncertain, but as we get more light may offer something specific. Careful pluriglandular therapy may be sometimes warranted. So there may be cases where ovarian extracts are considered indicated. Thyroid medication in patients showing marked evidence of hypothyroidism is often very effective.

For the attack, the simplest methods that will answer are probably the best. Quite a number experience relief from a very tight bandage to the forehead. An apparatus called a migrainator acts on this principle. Very hot compresses to the forehead and upper part of the face often prove useful, or a hot water bag at the nape of the neck. Frequent bathing of the forehead and temples with some volatile spirituous lotion, to which aconite or belladonna can be added, often does well.

The complete rest which comes with sleep, into which a large number of patients fall easily, if all the conditions favor, is nearly always effective. A hot bath may be a useful prelude to this desirable rest. When we must resort to drugs, the nitrites in the early stage, where there is pallor, chilliness, small pulse and contracted temporal arteries, best meet the indications. At a latter stage, when the sympathetic symptoms are in full force, these would be harmful. The coal-tar analgesics, antipyrin, acetanilid, phenacetin, aspirin, may then prove useful. Caffeine may be used with them. A cup of strong coffee may act similarly, and is especially useful in the morning. The bromides may be useful, but more often fail

when given alone. Wolf feels fairly convinced that small doses of ergot combined with the bromides enhance their salutary effect.

We may be obliged to resort to morphia. It goes without saying that in a condition of such frequent occurrence we should be cautious with this drug. But we are, as a rule, possibly too hesitating to give this effective palliation. The author states that he shall certainly in the future search for the painful points which Didsbury claims always exist, and treat them as he has suggested.



Fatigue and Malnutrition of Children.—Veeder (*Journal Amer. Med. Assn.*, September 3, 1921) cites two cases to illustrate how fatigue alone may be responsible for failure to gain weight and develop along normal lines. The question of sleep is very closely bound up with the subject of fatigue and malnutrition. While it is absolutely impossible to lay down fixed hours for each age and, further, so many variables enter in, as the place of sleeping, sleeping equipment, general physical condition of the child, the amount of physical exercise or work the child performs, and the like, that latitude must be allowed and common sense used. But Veeder believes there is a minimum, and he has arbitrarily fixed a minimum table, based largely on the amount of sleep of physically fit children, and in practice it has been fairly satisfactory. From one to two years, thirteen hours; from two to four years, twelve hours; from four to six years, eleven hours; from six to ten years, ten hours; from ten to fourteen years, nine hours. As a matter of fact, most children take more. But a normal, active child who takes less is on the danger line so far as normal development is concerned.

Respiratory Sedatives.—Heroin is regarded as too dangerous by most practitioners, while a few say this drug should never be used (*American Practitioner*, July, 1921). Statistics collected under the administration of narcotic laws show that this drug is very rapidly dropping out of sight. Apomorphine has but one really legitimate use, that is, as an emetic, administered hypodermatically. Codeine very rarely induces a drug habit when used in therapeutic doses; it is the safest respiratory sedative. In spasmodic bronchial asthma, the frequent use of morphine aggravates the disease.

Etiology and Pathology of Loss of Vision from the Accessory Sinuses.—White (*Boston Medical and Surgical Journal*, October 20, 1921),

summarizing a lengthy article on this subject, says that earlier writers considered the anatomical relations of the optic nerve to the accessory sinuses the chief factor. Later ones claimed the trouble was transmitted by the soft tissue. No one etiologic factor is responsible for all cases. Purulent infection accounts for a few, while hyperplasia seems of minor importance. The analysis of a considerable number of case records indicates that the size and position of the middle and superior turbinates probably explain the etiology in a large number. Poor ventilation and faulty drainage are all important predisposing causes. He discusses the pathology under four headings, namely, direct extension, toxemia, bacteriemia, and hyperplasia. (1) By direct extension acute infections in the adjacent sinuses spread by continuity of structure to the sheath of the nerve, or even to the optic nerve itself, while in the more remote sinuses the infection becomes walled off. Nature has so walled off the chronic infections that it is futile to longer believe purulent sinus disease the one and only etiologic factor. Cases with sudden loss of vision with such noses might better arouse suspicion that the cause should be sought elsewhere than longer be considered the *sine qua non* of accessory sinus blindness. A comparison may be drawn between optic neuritis and Bell's palsy. (2) Toxin originating in the accessory sinuses or elsewhere may involve the optic nerve. (3) Microorganisms may be carried into the blood stream or lymph channels from the foci of infection in the sinuses to the regions adjacent to the optic nerve. Hematogenous focal infection of the nervous apparatus has been demonstrated, so why not a similar involvement of the optic nerve? (4) Hyperplasia, a predisposing factor, is probably of considerable importance, but not *per se*. Hyperplasia, plus infection and direct extension to the optic nerve, is responsible for many cases. Cultures when taken all gave the same growth, *staphylococcus albus*. A few streptococci were found, but no viridans were isolated. Several of the sections showed considerable increase in leucocytes and fibroblastic tissue along the margins of the bone. Others showed chronic inflammation of the deeper elements of the mucosa and of the bone, while a few showed fibrous hyperplasia.

Protein-Poor Diet.—Rabe and Plaut (*Deutsches Archiv für Klinische Medizin*, August 20, 1921) record the metabolic and other findings in a man of 40 who had been a vegetarian for several years, and fasted periodically. The amount of calories regulated by the appetite was below that which the basal metabolism called for, and yet the man did not lose in weight or energy. He said that he became a vegetarian because he had noticed that in certain sport associations the members that excelled were vegetarians.

Measure of the Blood-Pressure in Sleeping Subject.—Müller (*Acta Medica Scandinavica*, August 23, 1921) thinks that the drop in blood-

pressure during sleep has a diagnostic significance that has not been appreciated hitherto. The findings in thirty-three normal children under 15 and sixty-four adults are compared with the findings in twenty-five cases of high blood-pressure with or without kidney disease. The difference between the amount of the day and night urine is also instructive, as well as the difference between the blood-pressure waking and sleeping. The interesting and unexpected findings raise a host of questions which he is unable to answer. It is evident from this research that the blood-pressure fluctuates during the twenty-four hours more than has been realized hitherto. Another fact brought out is that pathologic changes in the blood-pressure long precede other symptoms from the kidneys or cardiovascular system.

Obstetrical Bill.—Here is the modern way for making out an obstetrical bill (*Med. World*, October, 1921), after reading the plumber's bill, for services rendered:

Installing one baby.....	\$50.00
Wiping joints and surface.....	1.50
Waste .....	.10
Tying cord.....	2.75
One cord tie.....	.35
Ag NO3.....	.40
Dressing cord.....	1.50
1 gauze gasket.....	.27
Nipple .....	.15
Delivering placenta.....	\$3.31
Twisting membrane.....	2.20
1 dram ergot.....	.87
3 sutures.....	15.00
Catgut .....	.65
1 Lysol.....	.25
2 Pituitrin.....	3.75
2 car fares.....	.16
3 Chloroform.....	1.20
Overtime	1.00
	<hr/> \$90.41

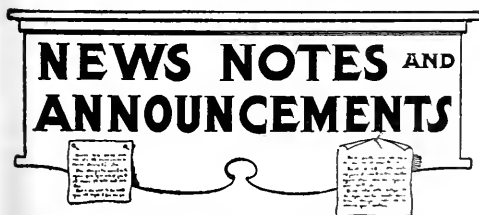
the 1,000 in the Fox Hills Hospital on Staten Island. It is believed that this move will go a long way toward solving the problem of hospital facilities for ex-service men in this district.

The New England Surgical Society.—The officers of the New England Surgical Society elected at the annual meeting for the ensuing year are: Dr. Charles A. Porter of Boston, President; Dr. Herbert L. Smith of Nashua, N. H., Vice-President; Dr. Philemon E. Truesdale of Fall River, Secretary; Dr. Peer P. Johnson of Beverly, Treasurer. The following named surgeons were elected to membership which is limited to one hundred: Drs. Walter C. Seelye and William F. Lynch of Worcester; Horace Binney of Boston; George M. Smith of Waterbury, Conn.; Herman Pitts of Providence and Willis E. Hartshorn of New Haven.

The Necessity for Greater Publicity in regard to Diphtheria.—The diphtheria problem must be made public until all phases are fully understood by the people. A very large proportion of deaths from this disease occur in children between the ages of six months and six years. It has been found that a large majority of infants are immune at birth but this immunity is lost in most individuals after six months. The time for the most effective use of toxin-antitoxin is at the time of losing immunity, that is prior to one year of age. Children should be protected exactly as they now are against smallpox, by vaccination. Diphtheria is most fatal in the early years of life, acts more quickly, may overwhelm the system before it is recognized and antitoxin used. Why not prevent it? Boards of Health and physicians, generally, should now inform the parents of every infant of their responsibility. Diphtheria can be as nearly eliminated as typhoid if we all do our utmost in a campaign of education.

Labor Legislation.—The indefatigable Bureau of Labor Statistics of the Federal Department of Labor has prepared a compilation (Washington: Government Printing Office, 1921) of labor legislation in all states for the year 1919. This material is valuable to medical men, particularly because it contains a comprehensive survey of legislation along the lines of hygiene and safety as well as hours of labor for women and children, mothers' pensions, and so on. An eight hour law for women was passed in Utah, and the application of the existing eight hour law in California was extended.

Of the laws applying only to child labor, the most far-reaching is the act of Congress levying a tax on the products of the labor of children under fourteen in mills, canneries, workshops, etc., and under sixteen in mines and quarries. The legislatures of Florida and of Hawaii enacted original laws covering mothers' pensions, and new laws were passed in Nebraska and Pennsylvania. Workmen's compensation is



United States Government Buys Hospital in New York.—The Government has purchased the Roman Catholic Orphan Asylum at Kingsbridge Road and Sedgwick Avenue, the Bronx, and expects to replace the home with one of the largest hospitals in the country for the care of disabled soldiers under the jurisdiction of the United States Public Health Service. This will make it possible to return the Polyclinic Hospital to its trustees by the first of the year. The new hospital will not only care for the 300 patients now in the Polyclinic Hospital, but for

treated in a separate bulletin, but accidents and vocational rehabilitation are covered.—*New York Med. Journal.*

American Death Rate in 1920.—The government's annual report on mortality statistics for 1920, soon to be issued, shows a total of 1,142,578 deaths within the death registration area, representing a rate of 13.1 per thousand population, as compared with 12.9 in 1919, which was the lowest recorded in any year since establishment of the registration area in 1900. There was an increase in the death rate from pneumonia and a marked decrease in tuberculosis fatalities.

Deaths From Motor Vehicle Accidents in 1920.—The Department of Commerce, thru the Bureau of the Census, announces that during the year 1920, 9,106 deaths resulting from accidents caused by automobiles and other motor vehicles, excluding motorcycles, were recorded within the death-registration area of the United States, which area contains 82 per cent. of the total population. This number represents a death rate of 10.4 per 100,000 population, as against 9.4 in 1919, 9.1 in 1918, 8.9 in 1917, 7.3 in 1916, and 5.8 in 1915. Between 1915 and 1920, therefore, the death rate per 100,000 population from motor vehicle accidents and injuries increased by about four-fifths. The actual number of deaths resulting from motor vehicle accidents in the twenty-five states from which data for 1915 are available increased from 3,571 in that year to 7,133 in 1920, the rate of increase being 108.1 per cent. During the same period, according to data obtained from the Bureau of Public Roads, of the Department of Agriculture, the number of registrations of automobiles, motor trucks, and commercial motor vehicles in the same states increased from 1,767,055 to 3,085,150, the rate of increase being 244.4 per cent. The death rate per 1,000 motor vehicles in use in the 25 states in question decreased from 2 in 1915 to 1.2 in 1920, being only three-fifths as great in the later as in the earlier year. In New York City last year there were 27,550 vehicular accidents, in which 23,279 persons were injured. Of these 864 were fatal. Almost three times as many men were injured as women, the men totaling 17,133 and the women 6,146.

Dr. Harvey Cushing, President of the American College of Surgeons.—At the recent meeting of the American College of Surgeons, Dr. Harvey Cushing was elected president. This confers another honor on Dr. Cushing and on Massachusetts, his adopted state. Dr. Cushing was born in Cleveland, Ohio, April 8, 1869. He received the degree of A. B. from Yale in 1891 and the degree of A. M. and M. D. from Harvard in 1895. He served as house pupil in the Massachusetts General Hospital. He studied abroad under Theodore Kocher and Hugo Kronecker of Berne and served on the staff of the Johns Hopkins Hospital for fifteen years,

where he acquired his reputation as the foremost authority on surgery of the brain and nervous system. He is Professor of Surgery at the Harvard Medical School and Surgeon-in-Chief at the Peter Bent Brigham Hospital.

Federal Board of Hospitalization.—For the purpose of coordinating the separate hospitalization activities of the medical department of the Army, the bureau of medicine and surgery of the Navy, the Public Health Service, St. Elizabeth's Hospital, the National Home for Disabled Volunteer Soldiers, the office of the Commissioner of Indian Affairs, and the United States Veterans' Bureau, a Federal Board of Hospitalization has been organized. It is to be composed of the following officials: An official to be designated by the president, who shall be known as Chief Coordinator and who shall be president of the board; the Surgeon-General of the Army; the Surgeon-General of the Navy; the Surgeon-General of the Public Health Service; the superintendent of St. Elizabeth's Hospital; the president, board of managers, National Home for Disabled Volunteer Soldiers; the Commissioner of Indian Affairs; and the director of the United States Veterans' Bureau. Brig.-Gen. Charles E. Sawyer, the president's private physician, has been appointed chief coordinator. The duties of the board include consideration of all questions relative to the coordination of hospitalization of the departments represented; standardization of requirements, expedition of the interdepartmental use of existing government facilities and elimination of duplication in the purchase of supplies and the erection of buildings; also the formulation of plans designed to knit together in proper coordination the activities of the several departments and establishments, with a view to safeguarding the interests of the government and to increasing the usefulness and efficiency of the several organizations, and to report to the president thereon.

Brig.-Gen. Sawyer, chief coordinator of the board, is authorized to preside over the board and to be responsible for its efficiency and for developing its activities along practical lines. After a full discussion of any question by the board, the decision of the chief coordinator is final as to any action to be taken or any policy to be pursued, but any member may appeal from the decision to his own immediate superior.

American Surgeons Honored by Royal College of Surgeons in Ireland.—At the closing session of the American College of Surgeons, held in Philadelphia during the week of October 24, Honorary Fellowship in the Royal College of Surgeons in Ireland was conferred upon eight Americans. Those receiving the honor were: Drs. George E. Brewer, New York; George W. Crile, Cleveland; John M. T. Finney, Baltimore; Robert J. Ochsner, Chicago; Charles H. Mayo and William J. Mayo, Rochester, Minn.; John B. Deaver, Richard Harte, and W. W. Keen, Philadelphia. The fellowships were conferred to Sir Harold J. Stiles, Sir William Taylor, and Sir Robert Woods.

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor*

IRA S. WILE, *Associate Editor*

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In Advance

Suicide.—The recent suicide of a Long Island physician in the face of a personal problem that involved enduring sufferings from carcinoma of the stomach naturally raises a question as to his sanity. L. T. Lowrey, in the *Journal of Nervous and Mental Diseases*, December, 1920, expressed the opinion that there are many conceivable situations in which a normal person might choose death as the lesser of two evils, but he insists that the burden of proof in any individual case falls upon those who make claims for the normal mentality of the suicide. His paper was based upon a study of those who had been admitted to the Boston Psychopathic Hospital during a period of about six months for attempting suicide. All the patients in his series were regarded as being in an abnormal mental condition at the time suicide was attempted.

A. W. Stearns, in *Mental Hygiene*, October, 1921, presents a careful study of suicide in Massachusetts which covers the period since 1841. His conclusions are significant in view of the fact that the suicide rate has constantly increased in Massachusetts since 1841, when records were begun. He states that "this increase represents the change in the attitude of the public towards suicides; whereas, formerly an attempt to take one's life was sacrilegious, or at least cowardly, and the church and public sentiment stood strongly against such conduct, today there would

seem to be little public sentiment against suicide, and religious groups are more inclined to condone than to condemn." He regards suicide as the expression of an emotion of negative self-feeling that can be caused by any unpleasant experience. The individual's desire is not so much to secure physical death as to make away with his personality. He desires to blot himself out, because of his deep feeling against himself, as an individual. In his careful study of the selected group, whose suicides had been recorded, one-third were ascertained to be frankly insane, while most of the others indicated some limitation of responsibility.

He calls attention to the fact that, while suicide rates have been increased, illegitimacy and homicide have also been increasing, while the marriage and birth rates have gone down, and the divorce rate has risen. He was unable to reveal any relation between economic situations and suicide. The peaks of suicide and unemployment occur at opposite seasons in the year. Old age, with its physical diseases, apparently has some effect upon the suicidal tendency, probably due to the hopelessness and depression that occur, altho consideration must be given to a loss of intellectual power and diminishing emotional control during advancing years.

The problem of the prevention of suicide is real, and Dr. Stearns' suggestions

are as follows: "If suicide is to be prevented, three suggestions may be made: (a) that there be more widespread recognition of the importance of depressive states of mind; (b) that the psychologic problems involved in depressive states of mind be dealt with on a psychologic basis, the physician whose advice may be sought endeavoring to understand and to meet the psychologic problems, both conscious and unconscious, that may be the source of the negative self-feeling rather than attempting to treat symptoms thru 'good cheer,' homily, and platitude; (c) that further consideration be given to the question whether the present general sentiment, that suicide is justifiable or commendable, is desirable." Recognizing depression as an abnormal mental state, and hopelessness as indicating a failure to adjust to circumstances, it is difficult to urge the mental normality of any suicide.

An instinctive reaction to escape unpleasantness exists in all persons, and flight or retreat to be regarded as reasonably normal conditions often representing wisdom and discretion under circumstances affecting individuals or the mass. There is considerable room for conjecture as to whether the definite decision and thoughtful choice of a means of escaping useless suffering, which possesses no advantage to the sufferer or his family, represents temporary insanity. Nor is it absolutely certain that it is reflective of emotional instability.

He is a wise man who knows his limitations and adjusts himself to them. In the election of self-destruction as the best form of judgment, traditions and beliefs may be violated, but this does not necessarily represent insanity. Among the Samurai, *hara-kiri* was a rite, a patriotic ceremonial, an honor was attached to it. Willingness to

commit suicide rather than reveal the important secrets of a nation at war has been esteemed a virtue, nor would one dare to accuse such suicidal heroes of mental incapacity.

This is not to be construed as a defense of suicides, nor does it indicate any desire to condone them. It is merely an attempt to recognize that there may be occasions in which its conscious choice may be wholly in harmony with reasonable, calm judgment. Depression need not be the only cause, but elation, ecstasy and idealism may be responsible for occasional attempts at self-destruction, but in all truth these represent but a negligible portion of suicides. If there has been a demand on the part of many for euthanasia, and if juries have failed to convict some persons who have aided others to escape sufferings, there would appear to be a slight degree of public opinion that recognizes the advantages of sacrificing life for the relief of incurable conditions. If the individual, therefore, constitutes his own jury for the consideration of the facts, his actions might not be out of accord with considerable current opinion, tho this does not necessarily indicate complete sanity on the part of the jury in either instance. It is interesting that psychoneurotics, with their great emotional stresses and depressions, are not prone to self-destruction, even tho suicidal attempts are not uncommon. It is undoubtedly true that the emotional element is of major significance and that the personal equation is largely determined by the emotional rather than the intellectual life. Hence it becomes difficult to determine the essential traits of a personality which lead to self-destruction. Under these circumstances Dr. Lowrey is probably correct in placing the burden of proof of normal men-

tality in any individual case upon those who believe that the suicide represents the results of reasonable and stable judgment.

Unfortunately, few persons can know the mental reactions of a normal being, and understand his relations to life's problems with sufficient fulness and clarity to give more than an academic opinion concerning the actions of another. Hence, it becomes difficult to prove that suicide is the normal expression of the instinct of flight based upon rational processes free from depressive states or fears. The suicide is, by virtue of his action, placed in the category of probably unstable personalities who have been unable to adjust themselves to specific situations or cumulating unhappy experiences. Even tho a physician, in the face of an incurable disease, selects self-destruction as the lesser of two evils, and his action appears to possess a large element of rationality, there is no way of determining whether the act of self-destruction was due merely and entirely to the physical state of disease, or whether incidental to it some abnormal mental condition may have developed.

The fact remains, however that the prevention of suicide is a distinct problem of this day and generation. The increased attention to be given to mental hygiene and psychiatric problems bears witness to the greater concern with which mental conditions are being viewed. Early attention to the mental status of childhood should have a pronounced effect upon securing more stable types of personalities, and lead, in due time, to a decrease in the number of those with suicidal tendencies that are not dependent upon frank psychoses.

The Periodic Health Examination.—

The economic argument is always helpful

in securing the acceptance or rejection of schemes for promoting health. The periodic examination of individuals has been urged for several years. A large variety of facts has been revealed indicating its importance. In *The Survey*, December 3, 1921, is the report of a presidential address before the Association of Life Insurance Medical Directors by Dr. S. Augustus-Knight, medical director of the Metropolitan Life Insurance Company, which has been providing its policy holders with periodic health examinations since 1914. According to his statements, a statistical study of those examined during the first two years of this experiment indicates that this type of service pays the insurance company in a reduced mortality. It was ascertained that "the examined policy holders had a lower death rate than that expected by the various tables at practically every age period." Without dealing in the detailed figures presented, this comment merits thoughtful consideration: "It would appear that the company has on this particular group of people had its principal returned and made a 200 per cent. profit on this investment."

It is patent that if the Life Insurance Company secured this monetary return that the policy holders also reaped a rich reward. Those who were informed of physical defects became more careful in leading a hygienic life. Those with minor defects and trivial impairments undoubtedly have had them corrected in order to improve their physical well-being. Those who were warned of the early evidence of potentially serious difficulties undoubtedly took steps to strengthen their resistance and renew their vitality. As there was a lowering of their mortality rate, it is fair to assume that there was a decrease in their morbidity rate—both of which pre-

sented valuable economic savings to themselves and their families. It is proper to say that what paid the insurance company 200 per cent. profit on its investment yielded an incalculable return to the policy holders who took advantage of the opportunity to secure, without cost to themselves, the benefits of this annual examination into their actual physical status.

The lesson is apparent. Annual medical examinations pay. The fact remains, however, that insufficient attention is given to this necessity. It would appear to be desirable for medical societies to lend their support to disseminating information concerning its value. Local groups of physicians might utilize their dispensary resources and their private practices for installing the idea. The importance of the annual medical examination will not be fully appreciated until the doctors themselves become its staunchest advocates. Here is an opportunity for the profession to exert its influence in legitimate channels that will benefit their patients and the community.

Dr. Adolph Lorenz.—The presence of Dr. Lorenz in this country has created a degree of discussion unusual in amount and unfortunate in character. A distinguished, capable, foreign physician reaches our shores and his coming is heralded far and wide. A large amount of publicity attends the opening and operation of clinics in which he offers his services. As a result of the publicity various reactions occur in which the attitude of physicians is reflected in a favorable and unfavorable manner.

No one can deny the right or desirability of Dr. Lorenz offering himself to American communities as part of a plan

of personal expression of appreciation for American aid to the land of his birth. Nor should there be opposition to his practicing in this country for the sake of rehabilitating his shrunken fortune. Every opportunity should be given him, and his work should be facilitated.

It is undeniably true that Professor Lorenz owes a large measure of his American prominence to the fact that many years ago his services were requested for attendance upon a millionaire's daughter afflicted with congenital dislocation of the hips. His tour of American cities in those remote days enhanced his reputation, and made his name a household word, even tho his end-results were frequently unsatisfactory. This glamor of reputation has been retained, and his return to this country has awakened old memories and a recognition of his splendid gift of service to cripples at that time. This in itself does not mean that our foreign colleague is superior at the present time to the American orthopedists. Indeed, he has gone out of his way repeatedly to say this, and praise American orthopedic work.

The constant use of his term, "bloodless operation," now, as then, added to the interest in his methods of treatment. The laity cannot know that the word bloodless is a misnomer, and that his form of manipulation is accompanied by considerable bleeding which, however, is subcutaneous and practically immediately concealed from view by casts or other coverings. The traditional fear of the knife magnifies the importance of the idea that is conveyed by the term, regardless of whether the manipulation possesses any advantage at time over treatment thru open operation. The laity cannot be expected to know that the Lorenz method is often superseded by

more advantageous methods.

It is also a natural phenomenon that some glamor should attach itself to the accomplishments of a foreigner, as compared with the achievements of men in our own land. It is too much to expect that the general public is going to measure capability, or investigate the results of treatment, or inquire into the degree of responsibility that is attached to the after-treatment, which is not under the immediate care and direction of the original operator.

It must be confessed, too, that the striking personal appearance, kindly face, and long beard give a quality of expression that to many is interpreted as spiritual. The inspiration of faith is natural, and it is readily understandable that the idea of a miracle man attaches itself to his gracious and dominating personality.

Physicians have more or less resented the undue publicity given to Dr. Lorenz. The warnings of the danger that is attached to the implied promise of unusual performance are, as usual, misinterpreted as professional jealousy or fear of competition. This, however, is the usual degree of appreciation which is given to the disinterested medical opinion freely expressed for the benefit of the public. Any criticism of any physician or cult by doctors is immediately regarded as springing from low, commercial motives. Nevertheless, the opposition to the activities of the press were probably based upon an understanding of the psychology of families unfortunately afflicted with hopeless cripples. The stated accounts of the types of children operated upon by Dr. Lorenz indicate that his services have been secured for comparatively simple conditions. The great mass of children brought to him were not touched because they presented inoperable and incurable afflictions

or were already being adequately and properly cared for. For this group of children and their parents, a renewed hope was crushed, and a greater sense of futility was created. Those children treated by him, however, were fortunate in that parental attention was attracted to the advantages of treatment.

Dr. Lorenz Was Not to Blame.—

Concerning the fees paid to Dr. Lorenz personally, there is no need for discussion. He was badly advised. It was unfortunate that, under coercion, donations were exacted from clinic patients who had been led to believe that his services were being provided without cost. Here again the responsibility was almost entirely that of his American sponsors. Instead of heaping abuse upon Dr. Lorenz and his methods, there would be greater fairness in questioning the wisdom of his American counselors and friends, who undoubtedly gave him the ideas for his conduct and made the plans for his private practice. With a sense of justice toward our distinguished visitor it is probably unfair to condemn him for infractions of our traditional system of medical ethics. As a stranger practicing medicine by courtesy, he undoubtedly possessed every desire to abide by the ethics of the profession. The violations complained of probably were not instigated by him and grew out of following the suggestions and advice of those who sponsored him and aided him in every way in establishing himself in clinic and private practice. The full measure of responsibility should be placed upon them, as it was their duty to prevent the exploitation of the poor and to safeguard his own reputation in the matter of actions in American institutions.

Dr. Lorenz has stated that he believes that many benefits have arisen from the

publicity in creating a renewed interest of parents in the orthopedic defects of their children. And as Dr. Charles Mayo has said in commending Dr. Lorenz's work, this result alone would have justified the visit of this distinguished specialist to our country. This is undoubtedly true and it should give many ideas for the inauguration of periodic campaigns by local groups. There is very great doubt as to whether American orthopedists would arouse the same degree of activity as that stimulated by the presence of a visiting orthopedist, enshrined in the memories of our people and heralded as the most distinguished orthopedist of this generation. The plan, however, merits consideration, and suggests the need for greater publicity regarding the medical and surgical facilities that exist in communities for the alleviation of distress. There is no reason why health departments should not arrange specific weeks for attention to disorders of one type or another, publishing lists of places where adequate attention may be secured, mentioning the names of the celebrated physicians and surgeons who have agreed to give their services in the same manner that Dr. Lorenz has offered his. Obviously, physicians know that they are constantly available for services of this character, but apparently it becomes necessary to call these facts to the attention of the public thru the medium of the press. In all likelihood, however, there would not be as much newspaper space given to such propaganda, because it does not possess the same news value as a similar form of service tendered by an outstanding personality.

In considering the various objections that have been made to the appearance of Dr. Lorenz in various communities of the coun-

try, it would seem as tho the opposition were based upon dissatisfaction with the methods employed rather than objection to the man. A patriotic sensitiveness possibly is responsible for the criticism that arises from the spread of the erroneous idea, by implication, that American orthopedists are inferior to the visiting surgeon. It is undeniable that Professor Lorenz is a capable man, with unusual dexterity in his practiced hands, but this does not mean that his American colleagues are in any sense inferior or incapable of performing the operations which he advocates. The history of American orthopedic surgery is the strongest contradiction of such an allegation which, incidentally, has never been made by Dr. Lorenz, who does not hesitate to express his confidence in and his appreciation of the capability and scientific attainments of his American colleagues. Here again all responsibility for implied superiority must be laid at the doors of his American sponsors, or to the imaginative writings of the representatives of the press who have facilitated the publicity and utilized the occasion to make the most of his appearance in this country.

AMERICAN MEDICINE welcomes the services of Dr. Lorenz, wishes him every success, hopes that he remains permanently in this country, and condemns, without hesitation, the improprieties which have attended his presence, as a result of the failure of his American friends to give him wise counsel and guidance.

School Psychiatrists.—The introduction of psychiatry into educational systems must be hailed with delight. In Highland Park, Michigan, a school psychiatrist is

in the employ of the Board of Education. His province will include the management of school problems that prove difficult to parents, teachers, and the school psychologists. It will be his function to advise the teachers and parents concerning the treatment best adapted to secure the maximum results from a pupil. These problems are not limited to the period of adolescence, but exist in all parts of a school system and at all ages.

More difficulties may be found in children of high intelligence than among those who are defective, and the causes may be physical, mental, emotional or social.

It is evident that the school psychiatrist will have ample to do in studying the individual children, in directing the special investigations which are necessary to secure adequate light upon the subject, in formulating the general plan of treatment and supervision, and in making such suggestions as will promote the school progress of the child. While on the face this scheme aims to advance school efficiency, it possesses a greater significance in the advantages that accrue to the community in assisting the child to make its adjustments to numerous problems. This recognition of the value of psychiatry is of more importance in that it finds itself accepted as a legitimate function of a public educational system. It represents a practical endeavor to get at the root of all the difficulties of childhood during the period when mental hygiene is most serviceable. The prevention of delinquency, whether manifest in truancy or anti-social conduct, is fundamentally important. The study of individual children constitutes the proper method of acquiring the data upon which may be based appropriate measures for

controlling the harmonious development of children.

The problems of psychiatry are of immediate concern to the community, and they represent phases of life that cannot be studied and interpreted entirely thru the medium of clinical psychology. This experiment in the introduction of psychiatric work in a school system merits careful study in order that there may be a proper appraisal of its practicality which, superficially, appears to require little argument. The care of children during school life certainly involves more than the physical welfare or efforts at educating. The attitudes and trends of the children help to determine both the physical status and their educability. To recognize children, therefore, as individual beings with special problems is a step in the right direction. The services of a competent psychiatrist will be advantageous to the children, their parents, their teachers and, above all, to the community which aims to serve childhood in order that, later on, the matured individual may return the services to the community.

Industrial Absenteeism.—Despite the interest in workmen's compensation acts and social insurance, there is comparatively little available knowledge concerning the time lost by employees in industry. For this reason, the paper by R. S. Quinby, on "A Study of Industrial Absenteeism," in the *Monthly Labor Review*, October, 1921, is very informative. The study is based upon an investigation covering the twenty-eight months from January, 1919, to April, 1921. This was a period not characteristic of general industrial conditions, owing to the unusual business conditions that existed with

its period of increasing depression, which also caused the abnormal epidemic of influenza. The average number of employees during the entire period consisted of 6,700 factory workers. The amount of time and the number of days lost per employee per year represents a loss of 6.61 days from sickness, 0.45 day from industrial accidents, 0.25 day from non-industrial accidents, and 10.95 days because of personal reasons. A total of 18.26 days per employee per year was from all causes. This experience would indicate that, save in unusual periods, sickness and disabilities should not exceed 2 per cent. of the working time based on a 300-day working year. Sickness and accident accounted for 41 per cent. of the total time lost.

It is interesting to note that there is a higher absentee rate of married individuals even tho they yield a smaller labor turnover. The sickness rate for both sexes is higher on Monday than on other days, and gradually decreases until Friday or Saturday, when it again increases slightly. The months of high sickness absence show also a high degree of absence for personal reasons, usually due to sickness in the family, which necessitates the employee's absence from work. There is a wealth of suggestion in the fact that the time lost on account of sickness and accident conforms quite closely to the risk that is approximate as a result of the judgment upon the physical examination classification prior to employment and periodically continued during employment.

The main diseases responsible for absenteeism are the general infectious diseases, diseases of the respiratory and digestive systems. The experience during 1920 indicates that influenza, tuberculosis, pneumonia, pleurisy and other respiratory

diseases cause over 35 per cent. of the total disability on account of sickness and accidents combined. The influenza disability was shorter for males than for females, while pneumonia showed a longer disability for men than for women.

Statistics of this character must be considered in the light of the plant, the nationality, age, and sex distribution, and the conjugal condition of the employees. It does not necessarily indicate the exact conditions that might be revealed by similar investigations in other industries or factories. Its value lies mainly in its contribution to industrial hygiene as the experience in one industrial plant wherein great care has been taken in studying the problem. It offers a point of departure and of comparison for those interested in the welfare of employees, and affords opportunities for constructive measures for decreasing the liability of workers to sickness and accidents. It reveals also the necessity for further study of the elements entering into the personal reasons for absenteeism, and the determination of the effect of the non-industrial sickness and accident rate upon loss of time and employment. Facts of this character are of immense value in determining upon policies for improving the health standards of a community.

Community Health Protection.—With the extension of facilities for the protection of health, there has been a considerable reduction in the sickness and death rate among the very poor. The general standards of education and economic independence that obtain among the rich enable them to take advantage of private physicians for the benefits of their households

The great mass of people, which in England would be called the middle class, have no desire for charity and find themselves, at times, hard pressed to secure the requisite medical attention during illness, in consequence of which they are securing less of the prophylactic service than the economic groups above or below them.

A new experiment has been undertaken by the Citizen's Health Protective Society to stimulate the interest of communities in their own health programs, above and beyond that which is provided thru established health departments. It has been determined that for a six-dollar capitation charge per annum it is possible to give supervision to pregnant mothers, nursing assistance at confinement, offer the facilities of a baby health service for children under two years, give health supervision of children from two to six years in classes, and maintain adequate home instruction of mothers, and to provide visiting-nurse care for sick persons of all ages in accordance with the general rules governing the services of visiting nurses.

The success of a venture of this character depends upon the voluntary association of citizens to the extent of uniting in communal service at least five thousand persons. This would not be a mutual benefit association, as originally understood, but a truly democratic community organization under its own administration. It is a type of cooperative communal service that has its counterparts in the health association organized by de Wolhardung at The Hague and by the Belgian Cooperatives. It is dissimilar to the service provided by the German Krankenkassen in that the basis of organization is not on industrial classification nor limited by interests in particular industrial proc-

esses. It is a true citizen organization that is designed to take no cognizance of color, creed, politics, occupation or economic condition. The services are to be equally available to all groups in the population.

Theoretically, this plan commends itself, but there is a grave question as to whether or not communities are ready for this form of organization, which contains no element of philanthropy, but is dependent upon the conscious recognition of the value of health service by a community in its own behalf. It may be said, in passing, that the physicians, in the community in which this plan is to be attempted, have given it unqualified support and recognize its advantages to the community. They believe it to be wholly in harmony with their views as to the type of health service which is best supportive of the interests of all groups in the population, including the physicians.

A Doctor's Prayer.

Help me to learn;

And find myself each day,

A little nearer to the truth,

A little further on my way.

Let me be kind;

And give me, too, the pow'r

To conquer self—and all the doubts

That rise from hour to hour.

Let me be strong;

When problems try my soul,

To see the right—and do the right,

With honesty my goal.

And when at last

My days draw to an end,

I ask no epitaph but this,

"He was a faithful friend."



A Neglected Field.—There is a rich field of experimental medicine which has unfortunately been only in an inadequate way and on too rare occasions brought to the attention of American physicians. This field is the vast area of Central Europe, where American physicians associated with the relief work of the American Red Cross are gathering a rich experience in both the normal and exceptional aspects of medicine. We have on several occasions attempted to bring to the attention of the profession at home some of the more striking aspects of this work, innovations of interest to the practitioner as well as to the student. In the current issue an extremely interesting article, by Dr. Ralph Herz, of New York, engaged in the Red Cross feeding program in Czecho-Slovakia, reveals an ingenious method, devised by Professor Pirquet, of classifying underfed children. This is only another instance of the wealth of material which American doctors are gathering in Europe, but there is another aspect of this work, of less practical but more human value: the exploration of unfamiliar corners and angles of knowledge which are one of the richest contributions to the physician's personal relations with his patients. In these generally unfamiliar areas in which the Red Cross doctors are working, quaint national traits, odd racial customs are constantly revealed to them, fragments of a high educational value and of deep human interest. As an example of this is an inconspicuous but significant paragraph in a report edited by Dr. W. Leland Mitchell regarding the examination of children in the city of Lwów, Poland, preparatory to a feeding plan. It was found here that the boys were, in general, better nourished than the girls. Inquiry into this odd circumstance brought out the information that the boys were better fed because (1) they are more energetic in acquiring

food, (2) they show greater ingenuity in this respect, and (3) they are often given preference over girls in the homes. This partiality to boys, a rather normal situation abroad, where the girl is considered as the less valuable asset of the two, curiously enough was found by the report to be true only in the case of Christian families. Among Jewish families it was found that both boys and girls enjoyed the same favors in respect to food, and that there was scarcely any difference between the condition of the two so far as nourishment was concerned. This odd circumstance brings out interestingly the attitude of the Jews toward the female members of the race, an attitude as conspicuous in America as it is in Europe. The incident is but one of the many revealing experiences constantly available to the Red Cross doctors.

The Abolition of Blindness.—A new theory of sight and what may prove to be a new hope for the so-called "hopelessly" blind has been brought forward by a French savant which, if further experiments reaffirm the excellent success thus far achieved, may revolutionize our whole conception of vision. The theory, set forward by Professor Louis Farigoule, of the University of France, in his recent work, "La Vision Extra-Retienne," has as its premise the conception that the eye is but the evolution of thousands of microscopic eyes which once were located on the body just below the skin, that these microscopic eyes, tho sunk into uselessness thru neglect, can be taught to see once more by careful training, and that there is no such thing as complete loss of sight thru impairment of the normal vehicles of vision. "There is no such thing as actual, absolute, total blindness," says Professor Farigoule. "The blind, so-called, can see even tho they be

eyeless." This new theory has been bitterly attacked by the professor's colleagues, but the results he has accomplished in his experiments with former soldiers blinded by bursting shells confirms the conviction that he is on the trail of a momentous and very real advance in the field of sight, for he has actually taught many of these soldiers to see thru their skins, a feat he terms paroptic vision. The plausibility of his theory is further fortified by our knowledge that the mole and the earthworm, stages of life thru which man may have passed according to the ultra-evolutionist, see thru their skins.

The result of Professor Farigoule's experiments are given in his book, which met with such criticism that he issued the following explanatory statement: "In order to understand how the discovery of the paroptic sense was possible and to see its proper relation to biologic science as a whole, we must first grasp what is meant by the term 'latent function.' We all know that at the present day man makes little use of his sense of smell, as compared with primitive man or the dog. In this respect he is defective. This is explained not by a spontaneous degeneration of the sense of smell, but by the fact that civilized man has been less and less compelled to use that sense and to give heed to its indications in his daily life." The horizon of the human skin, the explanation continues, when magnified under the microscope, represents a forest of what might be termed ant-hills. Each of these hills contains a nerve. Each hill is covered by a flattened epidermic cell which, if the need arises, can act as a lens for the nerve beneath. In other words, nature has provided a microscopic eye at the end of every nerve in the body, not covered by bone or opaque tissue. Flatworms see thru their skins. They have "pigment" or skin eyes. The skin cells are associated with sensory cells, which can feel and see. The scientist, knowing these things, evidently reasoned that man also had nerves which would respond to sight if re-educated. So he re-educated the skin-eyes in the fingertips, where the skin is thinnest and most sensitive. It is known that the experiments took the form of placing a totally blind man in a pitch-dark room. Then he was told to hold his hands before him, palms outward. A powerful infra-

red light was turned on the hands, but at a distance which made the slight heat imperceptible. Finally, he was able to distinguish light from dark. He was able to "see" the outlines of solid objects. He could "see" clearly enough to avoid obstacles in his path. The process of re-education required time and infinite patience, but the results have proved extremely gratifying. There is much yet to be done before the theory is brought to the point where its acceptance is assured. However, with the results already achieved, it promises a real advance in the treatment of blindness and the legendary sixth sense may yet become a reality.

Medicine vs. Law.—The famous trial of Landru, the "Bluebeard of Gambais," the man of 283 fiancées and the murderer of ten of them, represents a triumph of medical experts over legal experts such as has perhaps rarely been recorded before. The enigma of the impenetrable Bluebeard, who presented a mask which his accusers as well as his audience in the stuffy little court-room at Versailles were unable to penetrate, resolved itself into a manifest commonplace before the ingenuity and amazing precision of the medical witnesses. If Landru has been condemned to the guillotine and if one of the most remarkable criminals of modern times has been brought to justice, it is due rather to medical science than to legal acumen. After preparing its case against the accused for more than two years, the State had been able to gather only such circumstantial evidence as could not convince any open-minded jury; and the defense, under the guidance of Me. de Moro-Giafferi, France's ablest and most eloquent criminal lawyer, would have had a comparatively easy time in obtaining an acquittal for his client were it not for the testimony of the medical experts—testimony which, it is safe to say, more than anything else was responsible for the jury's verdict. Only one who heard Dr. Paul, the famous *médecin-légiste*, and his colleagues give their testimony, coolly, steadily, with the simplicity of the scientist who has no axe to grind and who is serving only the truth, can conceive the dramatic effect of their testimony, in the face of which even the imperturbable Landru was reduced to a

dumb immobility from which he did not emerge until the experts had finished.

Until these experts appeared on the scene, the State's case seemed impotent and undecisive. Its charges were precise enough, but its data were vague. No jury could convict on such evidence, whatever its prejudices. Then the medical experts appeared, and it may be said that from that moment Landru was a lost man. The bone ashes and bone fragments found in Landru's villa at Gambais had been turned over to them and they had been asked to construct out of this débris what evidence they could. And this they were able to do so successfully that, before an attentive and amazed court, science, with astounding precision, reconstructed the frames of which the fire-consumed fragments were all that remained and did so with such clarity and conviction that both jury and auditors felt that the dead women had been revived before them to point an accusing finger at the man who had done them to death. Out of all the fragments that had been entrusted to them, the medical experts had rejected all but 256. These, they asserted, were of undoubted human origin, and examination of them proved that they represented the remains of at least two and perhaps three or more human beings. For example, the fragments of head bones weighed in all 996 grams. An average human skull weighs 400 grams. Thus at least three skulls were represented in the fragments. Experiments by the experts led them to assert with conviction that the skulls had been opened before being submitted to fire, and evidence of the application of a metal saw was apparent on some of the fragments. It was known that Landru had purchased several metal saws, but the medical experts alone were able to indicate how he had made use of these implements in the execution of his crimes, the prosecution being as vague in its charges on this head as in other respects. Little by little, the experts built up their deadly testimony. It was a masterpiece of scientific synthesis with the scantiest of material on which to work, and the court record of this chapter of the famous case might well be preserved as a monument to the profession. The trial of Landru was in a sense a clash in which medicine and the law came to grips—medicine issuing triumphant. The American

press gave ample space to the dramatic elements of the trial, but one of the most thrilling moments was omitted. It occurred in a sharp contretemps between Dr. Paul and Me. de Moro-Giafferi. After the expert had concluded, the attorney for the defense quoted from memory a passage from Dr. Paul's written deposition. "Did you not say that?" he asked. "No, I did not say that, *mon cher maître*," replied Dr. Paul, smiling, his voice subtly ironical; "I said something rather like that, but not quite. Science, *mon cher maître*, does not deal with approximations!" It was but one of the telling moments in the trial in which medicine scored heavily against the law.

Population and War.—H. G. Wells is undoubtedly our greatest modern intellectual gymnast. Sometimes, his mental feats merely inspire admiration for their daring and courage, but now and then, with an amazing dexterity and vision, he lights upon a truth which suddenly illuminates the dense obscurity in which we are only too prone to grope hopelessly. Of all the wisdom that has been uttered about war, its origins and causes, perhaps the profoundest and truest, and the most far-reaching if adequately understood, is that, hinted in a brief paragraph or two in one of Wells' articles recently. The one reason for the persistence of war in spite of the advance of civilization is the problem of population, a solution for which has not yet been found aside from the historic process of the subjugation of other peoples to make room for one's own. The problem of population was the chief underlying motive for the late war. Germany was teeming, she had no room for her swarming population, she had to expand, and she made the only experiment open to her thru the inadequacy of modern society. The next war will be a war brought about by the problem of population. Japan is teeming and she must expand, and unless modern social and political organization supplies a new and more humane process of adjustment before it is too late, Japan will go to war, unless—. And here lies the wisdom and vision of Wells. The solution he suggests is so simple, so uncomplicated, that at first blush it seems almost absurd. The historic process, the process which creates wars, is

to expand the territory over which a swarming population may spread its activities. The suggestion of Wells is that it would be far better both for the world at large and for individual nations to shrink the population to conform with the areas available to it. To accomplish this, an intelligent understanding and application of the principles of birth control, to be internationally furthered and adopted, is indispensable. A homely remedy this may appear, the adoption by the world of a principle which even limited groups of society have failed to recognize or approve, yet no single fact or remedy would bring such effective results if properly applied. "I have made a British official blush," says Wells, "at the words 'birth control,' but it is a fact that this aggressive fecundity of peoples is something that can be changed, and that this sort of modesty which leads to the morbid development of population, and so to great wars, calls for intelligent discouragement in international relations. Japan has modernized itself in many respects, but its social organization and its family system are very ancient and primitive, involving an extreme domestication of women and the maximum of babies. I submit that the troubles arising from excessive fecundity within a country justify not aggressive imperialism on the part of that country but a sufficient amount of birth control within its proper boundaries." It is assumed as a matter of fact that Japan will go to war within the next generation in order to provide breathing space for her overcrowded population. Disarmament may prevent such a war and it may not. The only certain preventive would be a realization by Japan that she could provide her needed breathing space by reducing her population to the area available to her at present, and she could do so without the terrible cost that the historic method would involve both for herself and for the country which she would victimize.

A Larger Aspect of Birth Control.—

It is singular and discouraging that, while scientists and philosophers are striving for this larger, international aspect of birth control, in New York and in many American communities it is still being treated as a subject against which Puritan eyes

should be veiled and Puritan ears be stuffed with cotton. And it is even more disheartening that, while the problem of birth control is properly the field for experts, in New York its destinies are placed in the hands of our admirable but not too well qualified police. We have the profoundest respect for the courage and efficiency of our police department in New York, and we are certain that our physical security could not be placed in better hands, but we are not quite so certain that our moral and esthetic security is quite as safe when placed, as it is regrettably, in the hands of men so much better equipped to swing the law's club than to wield the critic's pen. The recent raid on the birth control meeting and the arrest of Miss Windsor and Mrs. Sanger, who tried to communicate to an attentive and interested audience their sincere views on a social problem of capital importance, is one of the most effective commentaries on our absurdity in reposing a confidence in the intelligence of our police which they scarcely merit. Both women were later released by Justice Corrigan, who threw out the charges of disorderly conduct filed against them and declared that in his opinion the police were acting beyond their authority in halting a meeting in which speakers were earnestly seeking to expound scientific theories. It is a source of gratitude to realize that our magistrates are better equipped than our servants of the peace to compass the scope of an activity which has the safety rather than the injury of society as its aim. Justice Corrigan's action is significant in that, for the first time perhaps, birth control is officially recognized as a scientific problem that is not necessarily inimical to society, and that is a decided advance. It is difficult to understand why popular misconception should have stamped birth control as a philosophy inimical to its interests, when the essential of the philosophy is its almost exclusive preoccupation with the interests of the masses. The anomaly of modern society is that the better classes practice it covertly and condemn it openly, while the masses, misled by the sources from which they borrow their opinions, imitate them only in one respect, that of condemnation. The interests of the community and the state would be better served if our better classes practiced what they preached and if the

police attended more strictly to their proper business.

An Unjust Tax.—A few weeks ago the newspapers announced that the Senate Finance Committee was considering a tax of \$6.40 per proof gallon on distilled spirits with a proviso that a rebate of \$4.20 per gallon would be allowed by the Treasury Department whenever it were shown, to the satisfaction of the Commissioner of Internal Revenue, that the alcohol had been used for manufacturing or medicinal purposes, that is to say, for non-beverage purposes.

The implication is that alcohol used for beverage purposes is to be subject to the full tax of \$6.40 per gallon. Since the manufacture and sale of all alcoholics for beverage purposes are interdicted, a tax is provided for something which is illegal, which makes a sad muddle of the whole thing.

However, as to that precious promise of a refund of \$4.20 per gallon, which would leave the tax actually paid at \$2.20, while money that is refunded or rebated always is received as tho found, almost in the nature of pure profit, the difficulty arises in making good the contention and in establishing the fact "to the satisfaction of the Commissioner of Internal Revenue that the spirits have been used for manufacturing or medicinal purposes." That provision is manifestly too indefinite and its enforcement would lie entirely within the pleasure and be guided by the individual prejudices of the Commissioner of Internal Revenue.

Furthermore, it is absurd not to use a harsher term. To collect a tax on which a rebate is to be allowed, that simply increases the expense of collection; it also makes the cost of enforcing the provisions of the eighteenth amendment very much higher than need be and it again opens the door to all sorts of abuses.

Furthermore, experience with a similar provision during the second term of President Cleveland has shown that, while technically the claim for rebate was allowed, the then secretary of the Treasury declared that no money for the purpose of paying the rebate was provided and, therefore, the claim could not be paid.

It follows that the manufacturing chem-

ists will be obliged to charge the entire tax of \$6.40 per proof gallon to manufacturing expense which, of course, is passed on to the patients who are in need of medicine. Thus the tax placed upon this article is doubly vicious: it does not increase the revenue of the government since it is virtually used up in enforcing the law; and it taxes the sick with improper severity.

It would be well if the Senate Finance Committee could find some substances that can be taxed legitimately and if they would leave alcohol alone, as far as it is used for legitimate purposes entirely within the spirit and letter of the law. Or, at least if they were to content themselves to impose a moderate and reasonable tax upon this necessary reagent.

Recent Investigations in Livestock Industry of Importance to Medicine.—The toll exacted from the livestock industry by internal parasites such as worms is enormous, and because of this drain on the herds and flocks the zoologists of the United States Department of Agriculture keep up an unflagging search for chemicals and treatments that may be used to combat these organisms. Recently they have discovered that a certain chemical once used in medicine as an anesthetic and now used variously as a fire extinguisher, cloth cleaner, insecticide, and solvent for fats and gums, is very effective as a destroyer and expeller of intestinal worms. The name of this chemical is carbon tetrachloride.

The effectiveness of this chemical against certain round worms has been announced by the department, but what may be the most beneficial use has just been brought out by tests on animals infested with hookworms. In the case of sheep the minimum effective dose has not yet been determined, but all the doses used, from 12 cubic centimeters to 48, in each case given in 2 ounces of castor oil, removed all stomach worms and all hookworms. It has been equally effective for hookworms in dogs and foxes, and has been used with success against some of the various kinds of worms that infest the digestive tract of pigs.

The fact that a species of hookworm also affects man makes this discovery of the efficacy of this chemical against hookworms in various animals of interest to medical

men as well as to veterinarians and livestock growers. Medical men are now trying it out at several places as a possible cure for hookworm disease in man, and it gives promise of success. As a result of the work so far completed, scientists in the Bureau of Animal Industry consider that this drug will prove of special value in the removal of the various kinds of blood-sucking worms in domestic animals.

A Great American Surgeon.—Among the men who have made American surgery the equal of—and in many respects superior to—that of any other country in the world, there is no one whose work has contributed more substantially to this gratifying result than that of W. W. Keen. Especially in connection with brain surgery, Dr. Keen has rendered notable service, and the precision with which cerebral lesions and tumors are located today, as well as the success with which they are treated surgically, must be credited in no small degree to his splendid researches.

As teacher and author, Dr. Keen has had a far-reaching influence on surgical practice during the past half century. His record in this respect is remarkable and makes this great American surgeon one of the outstanding figures in the history of medicine.

We consider it no ordinary privilege, therefore, to be able to print in this issue the fine tribute to Dr. Keen that Dr. Knopf has written to celebrate his eighty-fifth birthday. It is a pleasure thus to aid in honoring one to whom the world owes so much.

Our Index.—Again we call the attention of our readers to our Annual Index. No one can glance thru it without being astounded at the number and variety of the topics presented during the past twelve months. Hardly any subject of importance to physicians has failed to receive adequate attention in the current volume. It is not surprising, therefore, so many medical men read and preserve every issue of AMERICAN MEDICINE, for they know that they can thus keep in touch with all that is best in contemporary medical thought. If you are seeking information on any special topic do not fail to use AMERICAN MEDICINE'S Annual Index.

Science and Rat Killing.—In view of the anti-rat campaign recently begun by our health authorities, the criticism offered by an English scientist, George Jennison, of the usual methods of rat extermination deserves attention, says a writer in the *New York Times*. He points out that these methods fail because they aim at killing off all rats individually, which in face of the extraordinary fecundity of the species is impossible. All rats cannot be killed. There can only be at best a reduction of numbers, which results in increasing the available food supply for the survivors and quicker breeding.

The alternative suggested is simple in theory, tho far less simple in practice. Mr. Jennison advocates catching rats alive, killing the females and relasing the males. The plan was originated and successfully applied to rabbits by an Australian, William Rodier, of Melbourne, who claims to have cleared 64,000 acres of infested area in twenty years by this means alone, whereas poisoning proved a failure.

Under the present methods, because of their greater boldness, more males are killed than females, but reduction of the number of males does not affect breeding; it merely turns the race polygamous. The case of the bird of paradise is in point. The male, never very numerous, has been hunted for his brighter plumage for two thousand years. As a result the race became polygamous and survives. On the other hand, the passenger pigeon, counted by the thousands of millions only a hundred years ago, was hunted at nesting time, when the female sat twenty hours a day. Females were killed in disproportionate numbers and the species disappeared in sixty years.

The Rodier plan of dealing with the rat evil sounds sensible enough. Every breeder of horses, dogs, sheep and poultry knows that excess of males means failure, and regulates his stock accordingly. In the case of rats, where this failure of reproduction, resulting in time in extinction, is the desired end, the excess of males could be brought about deliberately. Combining the Rodier scheme with a thoro system of rat-proofing buildings might be a worthwhile experiment.



**TO WILLIAM WILLIAMS KEEN,
M. D., Sc. D., Ph. D., LL. D., ON HIS
EIGHTY-FIFTH BIRTHDAY.**

A Great Surgeon and Teacher, A Congenial
Colleague and Faithful Friend, an Amer-
ican Soldier and Patriot.

BY

S. ADOLPHUS KNOPE, M. D. (N. Y. and Paris),
New York City.

Four score years and five are yours today
And yet you are so young, so strong, so
hale,

Alert in mind and warm in heart.
Your life has been an inspiration to both
young and old,

And so it is to us today.
Some sixty years ago you started bravely
out

To serve your country and your State
As soldier and as surgeon.
You did your duty well in that long war
Which at the end brought union to our
nation

And led it on to glory and to peace.
To add unto your store of knowledge gained
And still more skill as surgeon to acquire,
More wisdom as a man,

You traveled far and wide in distant lands
And there became a pupil of the masters.
You then returned to us and soon became
Yourself a master at whose feet
Sat thousands thru these fifty years.
Many of these became renowned
Because a master hand had taught the art
to heal

By skilful use of scalpel and of knife,
With eyes alert and sympathetic heart
To save the lives of women and of men.
The countless many whom you cured,
Because of your great skill,
Could they be here would join with me
In praise aloud, and cry "Good man,
Be blessed and thanked a thousand times."

Because of your great virtues and renown
You have become a leader among men,
And so your brethren of the healing art,
Full forty thousand strong, of one accord
Made you their president to lead
Them in deliberations and discuss
How science can be friend to all mankind.
In this high station you did rule
With wisdom, justice, and with right,
And made each one of us to love you more.
When in this last great war for freedom of
the world

A call went out for all the men, who,
Vigorous and strong and in the prime of
life,

Should come to serve in freedom's holy
cause.

You, with your four score years upon your
head,

Feeling you still belonged within this class,
Enlisted as a surgeon-soldier once again,
Prepared for duty still as if but half your
age;

Regretful that you were not young enough
To join the army of the boys, in khaki or
in blue,

Who went to Flanders and to France to
fight.

You helped at home as counselor and guide
And proudly wore a soldier's uniform.

When not at work to teach or yet to heal,
You served the commonwealth

And helped wherever help was needed most.
Where'er you went you did a young man's
work

To which you brought the skill of ripened
years.

No wonder then that honors came to you
From schools of learning everywhere.

Eager to call you theirs they gave degrees
Or crowned you Doctor of the Law.

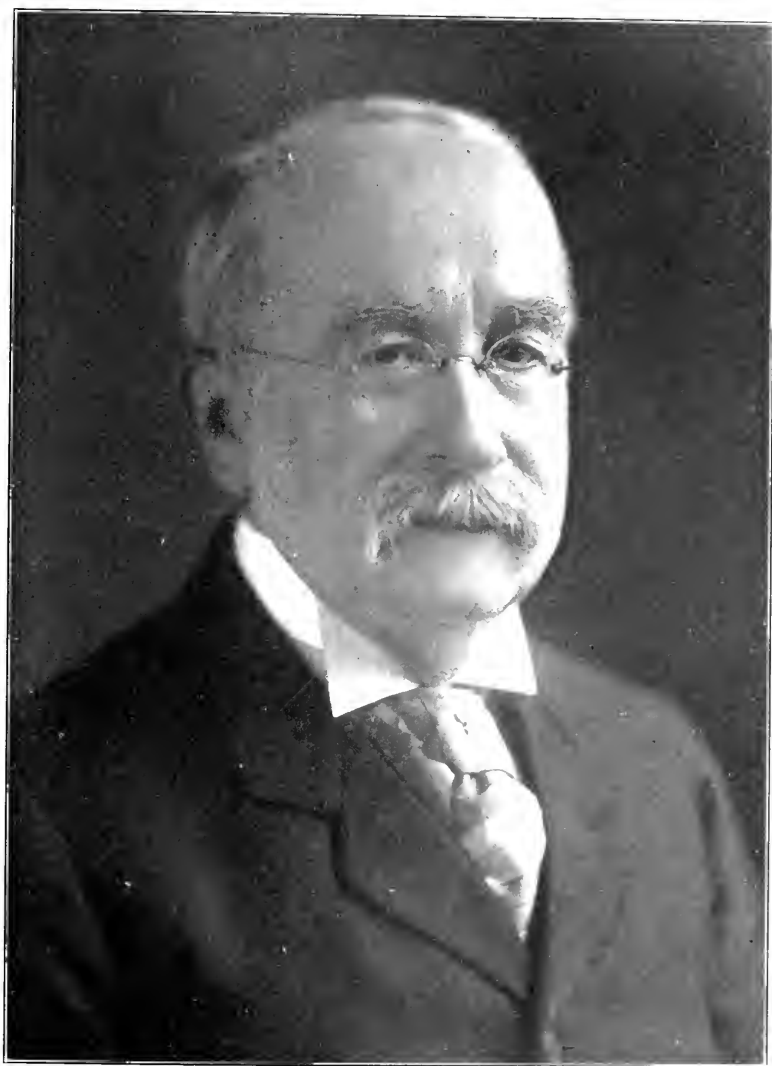
A man so faithful, noble, kind, and wise,
What tribute can I pay to you today

To let you know that all our hearts go out
To you in love and veneration true?

I pray that many years may still be yours
In health, in joy, and peace,

Which only those can feel who, like your-
self,

Have loved their fellowmen
And faithfully have served them and their
God.



WILLIAM WILLIAMS KEEN, M. D., SC. D., PHIL. D., LL. D.



ORIGINAL ARTICLES

HEALTH CENTERS: STANDARDIZED STATE MEDICINE AND GROUP ORGANIZATIONS.

BY

BAYARD HOLMES, M. D.,
Chicago, Ill.

The dissolution of the ancient profession of medicine is surely coming, if not already here, and new combinations and a complete reorganization seem inevitable. It should be the effort of every reflecting physician to take such an account of scientific and social trends as will guide him to the wisest course of conduct in these critical times. There appear to the writer, possibilities of restoring our guild to a position of honor and influence, by redeeming it from the domination into which it has been entrapped.

In the evolution of society as well as in the evolution of manufacture, diversion of labor and specialization are conspicuous events. The most of us can look back to the household of our youth, in which the bread, the butter and most of the clothes were made for the family, but now, in middle life, many of us live in flats and eat meals cooked at a common kitchen. If we commit the indiscretion of having a family offspring, the sprig is born on the accouchement table of the hospital, its presenting part is stamped with a serial number, and

its finger-print is taken the same as that of a criminal.

It is by the economic laws of the division of labor that the spinning wheel, the loom, the bake oven, the laundry and even the cooking stove and the obstetrical chamber have gone from the home or our in-a-door bed and kitchenette flat, if it is to be called a home.

It is not at all wonderful, then, that in the practice of medicine much of the factory system has shown itself. The hospital has grown out of its old position as an eleemosynary wrecking yard for human derelicts, with the capacity of one bed to the 5,000 inhabitants, to a rehabilitation and service station in every neighborhood with a capacity ten to twenty times as great. The hospital system is as much a part of civilized society as the waterworks, the sewerage system and the electric and gas plants. It is a public utility, and like all public utilities is bound eventually to be publicly owned and operated, and medical service must undergo action and reaction to impersonal industrialism running on the philosophical single track "out for profit." The patients in the public hospitals and in the eleemosynary dietetic hospitals were given medical attendance by our profession gratis, and the interne service still remains almost gratis. Nursing was initiated a hundred years ago as a semi-religious sister-

hood, and it was and is in a measure outside the ethics (or lack of ethics) of industrial vocations.

The one factor that the physician who is disturbed by medical commercialization and industrialization should bear in mind, is the fact that business, commerce, industry and manufacturing are equally disturbed by the humanizing factors which medicine and the church formerly monopolized. If medical treatment and hospital care have become less humane and more profiteering in their tendencies, commerce and industry, whose votaries worshiped the one idol "Profit", have been obliged to bow down to some symbols of humanity which they at least hang about their economic shrines.

Medicine came from an altruistic religious service without economic standing and dependent on free-will honoraria for its economic necessities, but it has now gone awhoring after profit and power and often succeeded.

The Growth of Industrial or Salaried Medicine.—There have been many inroads upon the old preserve of medicine as a professional field. Some of them are quite distinctly economic. Take for example so-called industrial medicine—in its simplest form it is the provision made by the larger employer for the medical and surgical treatment of the sicknesses and the injuries of the laborers while in his service. This system has grown thru sick benefits and insurance into a very complicated service which removes a large proportion of the wage earners from the care of the general independent or family physician, and diverts them to the salaried staff of physicians employed for full or part time by the great exploiters of labor. These physicians and the claim agents are literary wage

workers and intellectual body servants of the great corporations, and they get their annual, monthly, or weekly stipend from the same window. The physician or surgeon is as economically subservient to the manager or efficiency director as is the barn boss or any manual laborer. He must treat his patients so that the efficiency expert may not find that the company suffers thereby. The suffering or loss of the patient is a secondary consideration. It is hard to serve one in the pay of another.

When the insurance of all the employees is placed by a great corporation or by a new organization in one of the many accident insurance companies, the employing corporations wash their hands of all economical; legal and ethical responsibility, but this does not relieve the salaried or contract surgeon and physician of the critical position in which he must treat one person in the pay of his (economic) enemy and he still finds it hard to serve two masters: one the natural ethical master, the patient, the other his paymaster, be it the patient's employer or his insurance company, once removed.

But another very significant duty falls upon the salaried medical man, which many of our profession in military service grew to recognize and to hate under the name of paper work. Medical records are of the greatest scientific importance, and it is said that Hippocrates derived from the record of the temples of Æsculapius, that professional experience which prepared him to write the first great *incunabula* of our art. But the temple records and any true medical records are not those on which the insurance department and the claim agent step the hardest. They want records of facts and words wholly outside of medical or scientific interest and utility. The

questions are dictated by possible legal obligations, as the blanks prepared by the efficiency and legal experts for the medical man to fill in, abundantly attest. As a result, the surgeon and physician must look to his clerical performances rather than to his medical and surgical achievements for favor in the eyes of his common paymaster. Industrial medical service, therefore, calls for quite different professional, clerical and ethical equipment of the young doctor from that which is found most desirable in the family physician. The value of medicine to industry is measured by the increase in products of manufacture and in the diminution in cost of production.

This fact is frequently referred to in the articles in the industrial press. Industrial medical literature is represented by a number of *quasi* medical journals in which the employers' and the insurers' attitude toward medical service is exploited, and by which the *esprit de corps* of the industrial medical wage worker is educated and fortified. These journals are ably edited, and they carry conviction to the inexperienced, the prejudiced, and the jobless reading physician. The advertisers pay the printers.

It would be distracting to discuss here the motive of industrial or salaried medicine, but in order to recognize the attitude which our profession should manifest toward this departure, it is desirable to call attention to its economic necessity. It stands as a department in "big business" just as the restaurant, the lunch room, and the legal departments do.

The Service of the "Good Doctor" Not Wholly Scientific.—In the industrial medical press, the "welfare workers" are closely associated in a rather haphazard way with the medical and surgical service. This is natural, for the "welfare" servants, the

nurses, and the medical men are all literary wage workers, and have other things in common beside their technical education.

To mend his broken bones or sew up his lacerated wounds is not the doctor's sole service to his patient. That the thermometer, the manometer, the skiagraph or the bacteriologic and serologic laboratory reports quantitatively his departure from the normal are not the only evidences that the "good doctor" needs to take care of his patient. Drugs and splints are only part of the armamentarium of medicine, and taking the community as a whole they are only a small part of it. From Balzac to Dreiser, the literary man has tried to describe and picture the "country doctor" and the facts to which I have called attention have been discerningly and more or less successfully emphasized. It seems that the efficiency experts have never read these essays and books or never thought them worth considering in their business. Many a man and many a woman need medical service quite as much when no diagnostic instrument or laboratory test can detect an abnormality, as any one does with an open wound or a broken bone.

It is thru the tardy discovery of part of this fact that the neurologic and psychiatric departments of our army became so conspicuous and even picturesque. But these departments recognized only a small portion of the human need of a physician by the "not-sick" man. The lawyer's service is not confined to his struggles for justice or judgment in court; no more does the physician find his exclusive activity in combating disease. The "good doctor" fills a social function that no industrial medical unit, however efficient, can ever furnish. The education of the physician in the school and the hospital does not prepare him for

this vital portion of the doctor's service—it comes to him only from long continued neighborly sympathy and intuitive assistance. It is the absence of this influence of the family physician in the life of the industrial communities of our country that eventuates in the non-homogeneity of these thriving centers. It was the recognition of this powerful social enzyme in our society at home that led the churches to send medical missionaries to heathen countries ahead of the church building and the preaching missionaries. Industrial medicine may be necessary in the great factory and foundry, but the neighborhood needs the resident family doctor. Can these two groups be reconciled or must they be separated as the barbers were separated from the surgeons in England in the eighteenth century.

The Progress of State Medicine.—One does not have to look far to see the absorption of private enterprises by the organized public, or in other words by the state. Sometimes this assumption has been dictated by economic need, and sometimes by an inherent social necessity. For instance, the privately armed retainers of medieval times have become the public police and the militia, not because of the economic waste of a private army or a private police, but because of the inherent social necessity of preventing disturbance of the peace and combats between the privately paid retainers. The nationalization of the mail service had a very different motive, and one largely economic and educational. Industrial medicine was an economic necessity, and sprang up as ancillary to the corporate or law-made body. It is essential to great capitalistic activity and enterprise.

State medicine, however, has grown up agnostic of economics and largely from the needs originating in the concentration of

population and from the dictates of medical science, often called sanitary science. The quarantine against the plague opened the door to state medicine, and it manifests itself in our department of health—national, state and municipal. Quarantine has been displaced by segregation, and prevention of disease has been secured by building laws, architectural permits, plumbing inspections and sewerage and water systems. In all of these matters, the organized medical profession has furnished the initiative and the public education. These measures which have been greatly facilitated by the judiciary and the legal professions, are incidents in the evolution of civilization and in the concentration of population. Indeed, they have been links in a vicious (or a benevolent) circle which has resulted in modern urban life. Today our cities are safer dwelling places for adults than the country is, or ever was, and largely thru public medical regulation.

The food, and especially the milk, inspection under the department of health extends its influence outside the municipality or even outside the state, and the regulation of conditions of labor by health legislation reaches to the limits of the tortuous avenues of trade and manufacture. The national department of health has medical officers in every port of immigrant embarkation. Our health activities are really international like our postal service.

The medical service of our schools puts the millions of our youth in touch with the impersonal state medical officers, early in their lives, and prejudices them by a familiarity with an impersonal official physician. The loss to the family physician is less monetary than ideal. The pesthouse of the olden time is now the contagious disease hospital, and the madhouse is the

state hospital for the insane. Both these groups of patients are removed from the independent local medical practitioner to the salaried impersonal state officer. The same may be said for tuberculosis and the venereal diseases. Patients with these afflictions are practically removed from the care of the family doctor to that of the state, county, or municipal hospital, and clinic. In some states and cities, other complaints like those of infants and children are provided for gratis, and so-called motherhood and infant welfare are about to be nationalized.

In diagnosis and in the preparation of preventive and therapeutic serums and medicines, the state has undertaken a growing monopoly. The establishment of serologic laboratories and antitoxine farms and factories has almost exterminated similar private institutions. As soon as private investigation and research with adequate clinical experiment have demonstrated the value of a procedure and the treatment has become standardized in the hands of the regular medical profession, it is taken up and placed in the municipal and state salaried service. These are inexorable facts.

The Medical and Surgical Group: or the Exploitation of Needy Neophytes by the Established.—A distinctly department store organization of medical service in private hands has proved timely and successful, and is being rapidly extended in the larger communities, but so far not openly established in the metropolitan cities. By this method, an established practice of two or three physicians and surgeons is extended by the acquisition of exclusive hospital service and a salaried efficiency expert, a laboratory man or two and a staff of salaried young specialists, so as to cover

the circle of medical science. With discrete publicity and extended cooperation, these units have been marvelously successful, and they furnish to the communities in which they are established a medical and surgical service much above the average of the service they displace, but they rarely subsist without foreign trade. The "machine" or "organization" as it is called, runs every patient thru the line of the represented specialists from the business office to the coordinating head, who at last reviews the reports from each and renders the diagnosis or directs the treatment. In the beginning, this service is personal and familiar, but by extension it grows more and more impersonal and formal.

From the first successful group, there has extended a long line of somewhat similar establishments occupying nearly every city of twenty thousand inhabitants in the Mississippi Valley. Each successful group has a dominating figure, and an inconspicuous promoter with a never-ending industry, a persistent publicity, and a growing optimism. System and psychologic publicity with local adaptation, ostentatious erudition, and irreproachable professionalism are the pillars of the successful medical group.

There is no doubt that it takes unusual team work to make a perfectly successful and growing medical group, and this team work requires wise command and equal subordination. Anyway, the medical group is an economic success, and the system has transpired so far as standardized medicine and surgery have gone. It is here to stay.

The Medical Center Established by the State—The Health Center.—It seems then that the art of medical service in its adaptation to the needs of modern human life has passed, under reorganization by the effi-

ciency expert, from a personal service to an impersonal corporate service. Many similar efforts have not entirely failed. The group system seems to grow. Failures die out silently. Bradstreet and Dun report the number of bank failures and failures in the various manufacturing establishments, but they have not yet undertaken to report the number of failures of medical and surgical groups. In the public mind at least, group medicine and the health center have been successfully implanted as the next step in social progress. We have our sewers to use gratis, we have our water at cost, we pay a trifle for postage, the police and fire departments are gratis, our children go to school and have books and lunch gratis, with some medical service thrown in. Why not have health centers and free medical and surgical service from a faculty of salaried experts, the salaries paid by the state, county or city? Such is the prevailing idea of public welfare and progress. Such is the teaching of the efficiency expert and the Ph. D. uplifter.

In the State of New York, the Department of Public Health actually proposes such legislation as would involve the establishment of such a health center under that department in every county. The experts would be selected from the 15,000 physicians of the state after physical and professional examination by the University of the State, and awarded to the lowest bidder, no doubt, under the same iron law of supply and demand as the equipment and drugs would be obtained. The service would be free to the patient. The rich would come in their limousines and the poor on the trolley, and take their turns in democratic precedence—first come, first served. The state would pay the bills and the citizens would pay in direct taxes or in the ultimate

inheritance tax. The employer of labor could deduct from the present wage the great saving of this system to every individual in the community. The products of labor would sell cheaper to all, and the standard of life and the size of families could be increased. There seems to be plenty of propaganda for the health center in every county, and this propaganda must cost something, but no one knows who furnishes the money—perhaps the trade unions. In the meantime, the “good doctor” takes such patients as are left to him, and he is growing old. The osteopath and the chiropractic are busy too. They are increasing in numbers and they are young and active. They have little or no science, tho they are establishing pedantic institutions, but they are human beings not separated from their patients who pay them by lack of common interests. If the health centers are established in every county and in every large industrial city in New York, there may be great improvement in the average standard of medical service furnished to the citizens of the state in all ordinary and standardized complaints, and a great diminution in the gross amount of money paid to medical men. It is the judgment of most statesmen and politicians that this would be the result. In any case, we may look upon the health center as inevitable, whether desirable or undesirable from the standpoint of the “undying medical profession” and the young medical aspirant.

The Recent Standardizing of Hospitals.—

During the past thirty years, the hospital has displayed great and evolutionary activity. In our country it still remains an emergency institution, and largely devoted to human vivisection. It is conducted regardless of the patient's need or the Hippo-

cratic injunction that "it is the duty of the doctor to cure his patient." By cure, one means a *restitutio ad integrum*, or to substitute an economic phrase "to put him back in his job"—in military words "to rehabilitate him." Few of our hospitals undertake so large a job. They are either *Hotels Dieu*, surrounding a chapel, or now too often surrounding the dominating operating rooms. Nothing has been more overdone than the inspection and legislation relative to hospitals during the last decade. Municipalities forbid the opening of a hospital as they forbid the opening of a livery stable, without the consent of the residents of the street. The limitations on insane patients and the requirements for a contagious ward are among the least troublesome of these regulations. Absurd and expensive building rules are made that increase hospital expenses to \$3,000 or more a bed.

The hospital fees have risen to a prohibitive price. A wounded policeman had to pay twenty-five dollars a day for a room and two nurses, when he was run down by an automobile and lost his leg. The result of such enormous hospital fees will inevitably be great hardship or the growth of tramp surgery and operating in private houses and flats.

The nursing problem has become acute. Stringent laws and long courses of service before graduation have greatly cut off the supply of nurses. Many hospitals can hardly get pupil nurses to enter their training schools and they have opened their doors to graduates of other hospitals as special nurses, because they have none of their own graduates to call on.

Some hospitals have closed their doors to all but their own staff, and this seems likely again to become the rule in the United States, as it was in the 1880's.

The Organization of the Medical Profession Into a Fixed Aristocratic Trades Union.—

The external economic pressure from industrial medicine, state medicine, and hospital exploitation upon the medical profession has not been the only factor in bringing about its embarrassing isolation and helplessness. Some twenty-seven years ago, the loose democratic national association which had slowly grown up after its first formation in 1850, lost its code of ethics and submitted to a dual organization designed to separate its scientific from its corporate activities. Two franchises and two houses were established, and like Napoleon's two chambers of notabilities, in one it is permitted to talk but not vote, in the other to vote but not talk. The delegates are a permanent unapproachable body. The open meetings cannot initiate or act on matters of professional policy. Seven years would be the shortest time in which reorganization could be consummated were the whole body of medical men determined upon it.

With the star chamber organization has come a medical press, dictated by the same political patientless medical officers. We have in the United States one great national weekly, under the national association, one state weekly medical journal under a state organization, and two independent weekly medical journals both in the City of New York. The score or more of state monthly medical journals are with one notable exception dominated by the national organizations and edited impersonally. A few special monthly journals and one or two state journals and one or two state monthlies remain free from domination from above. The fact remains that the medical press of this country is impersonal and timid. There is scant opportunity for

the effective expression of the opinions of the serious physicians either on the floor of the local medical society or in the medical press.

The Development of Medical Education.—This survey of our conditions and tendencies medical would be incomplete, indeed, without reference to the remarkable changes in our institutions of medical education during the past thirty years. Part of this development belongs to the general progress of science, civilization and economics, but a larger part seems to be due to pedantic misconception of the problem of medical education.

The Hippocratic oath was the compass of the old medical school. The support of medical education came from the busy doctor himself until the end of the nineteenth century. The preceptorship was the dominant educational duty of the distinguished physician, and it furnished the most effective portion of the pedagogic scheme. These two jewels of our profession are passé.

The number of medical schools is greatly diminished, and they are with rare exceptions subservient to universities and grouped in the galaxy of professional schools that includes engineering, architecture, music, electric engineering, aviation, commerce, forestry, agriculture, animal industry, accounting, sanitary science, and dentistry.

The endowments of medicine have become munificent and the state aid popular. The buildings for medicine, not to mention monumental hospitals, are often palatial if not pompous. The curriculum has been extended and the entrance requirements in scholastic subjects have been increased, and they have been applied with unrelenting rigidity. Unfortunately, motive, in-

herent mental and spiritual capacity and physical health take little or no place in these requirements. It is safe to say that it is difficult for any except mediocrity to run the gauntlet of these entrance examinations.

The practicing physician is excluded from the faculty of the modern medical school. The specialist still persists as the clinical teacher in his special branch. The anatomy of the chest, for example, is taught by an anatomist, the histology by a histologist, the physiology of the organs of the chest by a physiologist, the physical diagnosis by a patientless professor, and at last the diseases of the chest and their treatment by a consultant whose interest and attention are concerned largely with the rarities and novelties rather than with the great commonalties of disease of the thorax. Good pedagogy speaks for unity, coordination and motive hard to attain by such a divided curriculum. The thesis is a great unifier and coordinator, but it is not much used in our medical schools except in name. The published thesis requires perfection and completeness which take time. The medical school requires stated hours in the class room, in the laboratory, and at the clinic. The thesis requires time in the library and at the typewriter.

Worst of all the patientless pedants of our modern medical schools enslave the students with catechismal recitations and examinations. This method is carried over from the University and the High School. It has reached a perfection of thought-destroying efficiency hardly equaled by the Chinese triennials abandoned by that young republic. Discipline is required in military training, but in medicine, discipline is disastrous to education for the practice of medicine in its entirety.

The influence of State Examining Boards has prevented the rebellion of the student body against the subjugating system of the schools. These State Board examinations at their best offer high marks to the men equipped not for the practice of medicine but for the answering of catechismal questions.

Sanitary science is already about to be divorced from medicine. We are soon to have doctors of sanitary science. In a short time every town and city will have a Department of Health in which there will be no accredited doctor of medicine. There will be an epidemiologist, a serologist, a bacteriologist, a dermatologist, a laryngologist, a veterinarian, and many sanitarians, but no regular physician. Doctors of medicine will still hang around the health offices, but they will as they do now in some places, make up a negligible minority.

The Cultural and Social Rewards of the Family Physician.—Medical service is certainly the most inspiring and soul-nourishing life in modern society. Meanness, selfishness, and misanthropy break down before the experiences of a family physician. A stupid man is awakened, a slow man is quickened, a melancholy man is cheered and a coarse man is refined by the faithful practice of medicine in any American neighborhood. The cultural and the educational possibilities of a family practice far exceed those of a lucrative medical specialty in town or city, in spite of the time consuming duties of the former. It is not the scientific training of the school and the hospital that makes the "good doctor"—it is the implanted and growing ideal of service to the patient, and of the obligation of every physician to the medical fraternity that endowed him. The priest and minister may precede the "good doctor" in scholarship,

leisure and honor; the lawyer may greatly surpass him in economic opportunities and political preferment, but the practicing physician lives nearer the heart of the community, nearer the high and low, nearer the rich and poor, nearer the old and young. It often happens that he is closer the life of the young than the teacher is, and in spite of an irregular and strenuous life he usually outlives the votaries of the other professions, even in years, and remains young to the very end of life, whenever it comes.

The office or operating specialist loses much of the "good doctor's" inspiration and reward, tho he gains in monetary emoluments, regular hours, and personal freedom. Many medical specialists become hardhearted, grasping misanthropes and pessimists, and are inactive in social and political affairs. It seems to some observers that these men are little improved for being doctors, and the profession is little elevated in the estimation of the public by their business-like ways and their ostentatious opulence. It is occasionally obvious that their characters and the characters of their families are unhappily warped by their associations with the economically too successful. But the "family doctor" is passing, except in the country or the relatively small communities. The telephone and the automobile extend the family doctor's radius and diminish his waste of time in transportation. The great burden which he must endure and which he must take his part in removing is the unnecessary social poverty of country and small town life. He must make his home a social center as well as a health center.

The Possibilities of Country Practice in the Future.—It must be admitted that the great bulk of city and small town practice is

passing into impersonal, industrial and state medical groups, and so far as the city is concerned the independent medical practitioner is a vanishing factor.

The same cannot be said of the country and small medical community. In spite of the trolley, the automobile and the telephone, there are rural and small communities where the "good doctor" is still called for. He may be reluctant to take up life under such social limitations as prevail. He may feel the social restrictions and the inherent educational limitations for his growing or expected family, and especially for his cultured wife. In fact, the inconveniences of the country house, the school limitations and the lack of company restrain many a good man from independent practice, and decides him to melt himself into a "group" or take up the long subservience of a specialty. With the great improvements in country roads, with the extension of electric light and power, with the concentration of public schools and especially of high schools, with public conveyance of pupils to and from school, with the modern kitchen and modern heating apparatus for the house, with the perfected musical machines and three color multiplication of artistic books, and especially with the motor transportation, country and small town life may become far more attractive and interesting than it ever has been. No one can guide in this evolution from a better viewpoint than the big man, the thoro scholar, and the erudite physician. He can have a mansion and country estate in the small town at the price of a flat in the city. He can occupy from the first a position of influence in his community that he could attain only after years of time-consuming struggle in the city. His own office appointments can be commodious

and luxurious in the country serving a small practice with graceful deliberation, which would require a large practice and anxious haste in the city.

It is generally the family life that is so sordid in the small town and the country. It is the social and cultural starvation of his wife that makes the country doctor's life unhappy and leads him to undertake the drudgery of group medicine, industrial medicine, or other salaried service in the city. It doesn't seem reasonable that this should always be so. One must consider what the country and small town may soon become, and not what it is. There is an enthusiasm in the adventure of the foreign medical missionary which is soul-stirring and inspiring, and such may be the life of the "good doctor" and his talented wife in the small or rural American community today.

Nearly thirty years ago, when greatly interested in the bettering of the incoming groups of medical students, my essay on the topic "To be a doctor" brought me many earnest inquiries from inspired medical neophytes. With some of these men, the results of life have been recently gone over and compared with the predictions. The experiences have been far beyond all expectations in richness and variety in many cases. In a few instances there have been grave disappointments, but always with some remarkable compensation. The changes in the environment of the doctor during this period have been enormous and unexpected. Life is growing richer and more onerous with a geometric acceleration.

My ideal doctor, with his botanical garden and arboritum at Elmira, Stark County, Illinois, his big house, his big family, and his big life; the datum, as the engineer

would say, of all my medical and scientific surveys, lived a very simple and humdrum life compared with that of the average physician of equal prominence today. He had his farm and all the paraphernalia of scientific farming, chemical analysis of soil, selection of seed, meteorologic records, entomologic observations, measured seed, and measured harvest. His consultation office, which was a separate commodious building near the arboritum, was also a medical and scientific library and reading room. Scientific and medical pilgrims from all parts of the world visited him frequently and left him inspired by their scientific madness. The patient pilgrims got the best advice and treatment, and were sent away with a cheer and consolation like that which a Moslem Hajj alone can give. There are few such doctors now in a civilization that needs the kind much more.

Let industrial medicine come with all its impersonal complications and monetary complexities, let the group clinics and municipal and state clinics furnish for pay or gratis a standardized treatment to standardized conditions in standardized hospitals. There remains room for the family physician, the backbone of the medical profession, and this room is to be found in the small town and the country, and in the great city alike. He is still a necessary social servant, a civil and an educational leader and organizer, a social and a political enzyme.

Changes Necessary for Medical Evolution and the Restoration of the Influence of the Practicing Physician.—Among the economic encroachments upon the field of medicine are the education of non-medical specialists who do medical work. In the group clinic there is the nurse anesthetist and the laboratory technologist, for the chemical, for

the serologic, and for the X-ray laboratories. In the health centers are these specialists and the graduates of the schools of sanitary science. These are actual if not necessary and desirable innovations. Like the dominant tendencies before mentioned, they are subject to trial and criticism.

It is unfortunate that opportunities for such discussion activated by the possibility of the expression of official opinion are prevented by the constitutional provisions of our medical organizations. These changes have been introduced since all effective discussion has been closed except in the councils and the houses of delegates. Other changes will be dictated by economic interests in the future, and the medical profession cannot talk them over together and express themselves publicly.

The medical societies should be open to discussion and to action.

The insane have been held for fifty years in the custody of the state, under salaried medical men who hold little allegiance and no suzerainty to the organized medical profession. The results do not confer honor on scientific medicine or on the ethics of the profession. Psychiatry is in a condition of medieval mysticism and phantastic metaphysical philosophy. It is ignorant of cause, pessimistic of research and investigation, and nihilistic of therapy or prevention. It is the only example of a long-lasting salaried state medicine. Its spirit may not be used too confidently in predicting a similar fate for other state administered departments of medical service, but it may furnish the incentive for a scientific *carcat*. Were our medical societies not prevented by their constitutions from openly discussing such subjects and then officially acting, the salaried medical officers of the state would maintain closer relations

with the rank and file of the profession, and perhaps derive some inspiration from the curing doctors.

While the medical profession is camouflaged into a *quasi* responsibility for the state lunacy custody by the appointment of medical men to positions of responsibility as alienists, no medical society has a veto for such appointments or is permitted a recommendation. It is likely to be the same in the organization of the health centers. At first the societies will be consulted in the medical organization, but later there will be no responsible relations. The impersonal relations of the health centers to the patient are antipodal to the personal relations of the doctor and the patient. The former makes disease dominant, the latter considers the individual supreme. Is it possible that medicine is to suffer fission, and the salaried and the official physicians and surgeons are to be extruded from the personal and family doctors, or is the ancient conception of physicians to pass?

HOW TO PALPATE ARTERIES TO DETERMINE ARTERIAL TENSION AND BLOOD-PRESSURE.

BY

GEORGE EDWARD BARNES, B. A., M. D.,
Herkimer, N. Y.

This article is presented in response to the question of certain medical friends, "How can you tell the size of an artery with your finger?" and in response to the declaration of certain other medical friends, "You can't tell anything about blood-pressure with your finger." These two ideas have an astonishing prevalence thruout the whole medical profession.

Altho individuals doubtless differ somewhat in the practical tactile sensibility and skill of their fingers, I do not see how medical men so very generally have such very great difficulty in palpating arteries and gaining thereby quite an accurate idea of their size and an approximate idea of the blood-pressure. As I have never closely observed many doctors make palpatory examinations of arteries I cannot state where their difficulties lie. Possibly different difficulties afflict different doctors. However, from a limited consideration of evident palpatory difficulties experienced by doctors in various departments of practice, it seems probable that the chief difficulties really lie in a lack of tactile sensibility. This lack of sensibility may have its residence in the skin or the brain cells or any point between these extremes. A thick skin, especially if calloused, is an obvious obstruction to good sensibility. Whether the number of tactile nerve end bulbs or corpuscles in the skin of the finger tips differs considerably in different individuals I cannot say, but such a variation is probable. Physiologies state that the two points of a compass can be felt on the finger tip as two points when they are 2.2 mm. apart. One who has such a supply of touch corpuscles should be able supposedly to receive sufficient touch stimuli on palpating an artery to determine its size. It is possible that in certain individuals the touch corpuscles are so far apart that the size of an artery, especially when small, cannot be felt. However, in the palpation of an artery the portion of the finger exposed to stimuli does not consist of two points or a line, but an area which has the width of the width of the artery and the length of the width of the finger. It would seem that there would be sufficient touch corpuscles in this area to enable most doc-

tors to comprehend the size of arteries. (One may test his perception of two points on his finger end with a pair of scissors opened at varying distances. I can perceive two points when less than 1 mm. apart. I had no difficulty in palpating arteries at the very beginning of my practice.)

Doubtless, the degree of functional activity of sensory brain cells and the centers of comparison and judgment has much to do with the practical amount of tactile sensibility in the fingers of different individuals. This idea is indicated by the fact that practice, which, of course, cannot increase either the number of brain cells or terminal corpuscles, sometimes improves the tactile powers of the fingers.

The first thing to do in palpating an artery is to render it as prominent as possible. Palpability of the radial artery is diminished chiefly by the adjacent tense tendon of the flexor carpi radialis muscle. The nearness of the artery to the tendon has anatomical variations. By flexing the wrist and placing the hand at perfect rest this tendon is relaxed and palpability of the artery is increased.

A good prominent background against which to press the radial artery during palpation is furnished by the lowest half inch of the anterior surface of the radius. The artery cannot be so well palpated in the depression above this elevation.

It is well for most doctors always to practice palpation with a certain finger of one or both hands. (Of course, only one finger of one hand is used at one time.) The *tactus eruditus* thus becomes best developed. I think the middle finger is the best one because it is wider and more pulpy than the index finger and its skin is not apt to be so thick.

Now, how can an artery be palpated to determine its size, to determine whether it is of normal caliber or whether its walls are unusually contracted or dilated? The simplest answer is: Just feel of it. That is, just place the end of the finger on the artery (as mentioned above), make gentle pressure on it, and allow every nerve corpuscle in contact with the artery to receive its touch stimulus and then with the brain cells correctly interpret these stimuli.

One should place in contact with the artery that portion of the end of his finger which is most easily stimulated, which is most sensitive. As a rule, I think that the best portion is not the extreme end but the portion of the end which lies next to the palmar surface. This is also the portion which can be used with the greatest facility.

Please notice particularly that I say one must make gentle pressure on the artery. I believe that much of the failure to feel arteries accurately is due to the fact that they are often grasped with a vigor that would be appropriate to a stick of wood. Excessive pressure not only obliterates the artery but, also, as is a known simple physiologic fact, obtunds the sensibility of the finger. The most delicate, one might say artistic, touch should be used. Merely place the finger in light contact with the skin and then with great delicacy gradually increase the pressure until the upper surface of the artery is felt and then further increase the pressure and compress the artery enough so that its full semi-circumference comes into contact with the finger. To a considerable extent the pulp of the finger end fits around the semi-circumference of the artery, that is, the artery sinks into the pulp of the finger under slight pressure and its exact palpation is really a simple matter in most cases. If the artery is not well located

by the finger on its first application the finger may be removed and, guided by the knowledge of the position of the artery gotten in the first application, applied to it again more exactly or, if the skin of the wrist is sufficiently loose, the finger may be slidden along with the skin beneath it until the artery is surmounted. If, notwithstanding the fact that the artery is properly located, the finger does not seem to be sufficiently well stimulated by the contact, apply it again so that a slightly different portion of its tip and another set of sensory corpuscles are brought into contact with the artery. If necessary, make repeated attempts.

After the finger is in good contact with the artery a sufficient time—one-half to five or more seconds—must be allowed for the stimuli to pass to the brain and to be there interpreted. Sufficient mental concentration is essential for correct estimation. As the artery with each ebb of the pulse impinges on the finger, try to appreciate its size. If, especially during first attempts to practice palpation, the tactile corpuscles become blunted by fatigue, shift the finger so that another set of corpuscles will be brought into action or use another finger; if the mind becomes fatigued an interval of rest should be allowed.

The above method of applying the finger to an artery and estimating its size is for every reason the best method, but, if after persistent attempts one cannot make use of it, there is another method that he can try. The finger tip is placed on one side of the artery and then passed over its upper surface and brought at rest in contact with its other side, the estimation of the distance thru which the finger tip has been moved furnishing an idea of the size of the artery.

The tighter the skin on the wrist is, and

the greater the amount of fat is, and the nearer the artery is to the tendon, the more difficult is the palpation of the radial artery. Of course, small arteries are more different to palpate than large ones.

The results in various occupations show that the tactile sensibility of the fingers can be improved by practice. For those who have difficulty in palpating arteries I suggest that they obtain round objects of the size of the lead of a lead pencil, of the size of a slate pencil, and another object between these in size; place them on a piece of thin felt, cover them with a piece of woolen dress cloth and then palpate each one, recognizing its size. Repeatedly mix these objects up under the cloth and examine them.

But even if one can determine the size of an artery, how can he tell whether that size is normal or whether it is too large or too small, that is, whether it is unusually dilated or unusually contracted? One must simply know the normal size of the artery palpated and compare its size as he finds it with its normal size. If its size as palpated is smaller than normal then, with rare exceptions, the muscular wall of that artery is unusually contracted and in a state of hypertension; but if the size as palpated is larger than normal, the muscular wall is unusually dilated and is in a state of hypotension. Thus let us speak of hypertension and hypotension of the arteries. Let us realize that necessarily the tension of an artery is a quality of the artery itself due to the state of contraction or dilatation of its muscular walls and let us try to correct the existing false idea that arterial tension and blood-pressure are one and the same thing.

It happens occasionally that a patient has one radial artery that is anomalously small

anatomically. It is built that way. This can be detected by always examining both radials in new patients. I do not think I have ever seen a case having both radials anomalously small, but such a case could be recognized by carefully comparing the size of the arteries which would be expected to accompany the existing general condition of the patient, especially the affective state, with the size of the arteries as found and also other arteries of the body may be examined. Of course, other causes, such as aneurism, for a real or apparent difference in size of the arteries on the two sides should not be disregarded. Often a difference really not in size but in fullness of the artery will arouse suspicion.

What I have already said should furnish a clue to the method necessary in estimating blood-pressure by palpation. The method of applying the finger to the arteries is the same as the first already described for estimating the size of arteries. Indeed, with this method of application, the size of the artery and the blood-pressure can, in most cases, be simultaneously and almost instantly ascertained. The finger tip is gently placed on the surface of the artery and then with the utmost delicacy, the perceptivity of the mind being all the time kept keen, it is gradually pressed against the artery. During every instant of this procedure, the mind makes careful estimation of the amount of pressure made by the finger or, if you please, the amount of pressure which the blood in the artery makes against the finger, particularly the maximum and minimum pressures which, of course, represent the systolic and the diastolic pressures. In other words, chief attention is given to two points: the palpating finger is pressed against the artery just hard enough to enable the mind to form an idea of the intra-

arterial pressure during systole and also just hard enough to form an idea of intra-arterial pressure during diastole. Practically, of course, after one has become expert, these two estimations may be made during a single pulsation, the finger obtaining a feel of the artery during the greatest pressure and immediately afterward obtaining a feel of the artery during the least pressure. There is a tendency to underestimate the diastolic pressure.

Of course, the blood-pressure in any artery examined digitally is judged by comparing the sensations of touch and pressure derived from its palpation with the sensations derived from the palpation of arteries having normal pressure. To be able to form these judgments, it is necessary that one should have stored away in his mind a sufficient number of sensations derived from palpating normal blood-pressures so that the preserved images of these sensations may serve as norms with which to compare future palpatory sensations of touch and pressure.

The beginner would do well, therefore, to make digital estimations of blood-pressure in supposedly normal cases and, if he wishes, compare his findings with the readings of a sphygmomanometer. While no one can with his finger estimate blood-pressure with precision in millimeters of mercury, I cannot see how anyone who is in the practice of medicine can fail to estimate blood-pressure with the finger sufficiently accurately for ordinary frequent purposes. Of course, when it is desired to obtain exact figures or when there may be some uncertainty, particularly in new cases, the instrument must be used. But the existing inseparable connection in practice between blood-pressure and the sphygmomanometer is utterly absurd, impractical and detrimental.

tal. It is absolutely impossible, as well as undesirable, to use a machine every time the blood-pressure should be noted. Furthermore, the application of the cuff to a patient's arm often arouses emotional disturbances which affect the blood-pressure and yet today these disturbed readings are accepted as the patient's correct blood-pressure. Not only does the finger not cause such emotional disturbances during estimations of blood-pressure, but it is the only means by which emotional fluctuations in blood-pressure caused by the patient's diseased affective state can be properly appreciated. Indeed, the expert finger is more accurate, all things considered, than the impercipient machine.

Estimations of tension of the radial artery and of blood-pressure should be made every time a pulse is felt, for they are of even greater importance than the frequency of the pulse. They, still better than the pulse rate, indicate the condition of the circulatory system and they best show whether pathetic or violent affectivity, autonomic or thoraco-lumbar ("sympathetic") nervous system is in predominating activity. With practice they can be made as easily as, and more quickly than, the pulse count. Indeed, there is in all medical and surgical practice no one thing more important in diagnosis and in regulating treatment than frequent estimations of arterial tension and blood-pressure made by digital palpation.

It is to be hoped that the readers of this article will look further into disturbances of arterial tension and blood-pressure which exist so characteristically in very prevalent neurasthenic diseases by reading former articles as follows:

Affective Activity, Emotions as the Cause of Various Neurasthenic Bodily Diseases, *New York Medical Journal*, April 4, 1914.

The Rationale of Neurasthenia and of

Disturbances of Arterial Tension, *Boston Medical and Surgical Journal*, October 18, 1917.

The Etiology of Disturbances of the Heart Beat, *Boston Medical and Surgical Journal*, October 25, 1917.

The Explanation and Treatment of the Effort Syndrome, Neurocirculatory Asthenia, (Soldiers') Irritable Heart, *Medical Record*, July 26, 1919.

Vasodilators in the Intravenous Treatment of Syphilis with Arsphenamine, *Boston Medical and Surgical Journal*, May 15, 1919.

The Etiology and Treatment of High-Blood Pressure, Arterial Hypertension and Arteriosclerosis, *New York Medical Journal*. (To be published.)

The Cause of Astigmatism, *New York Medical Journal*, Nov. 20, 1920.

Transient Heterophoria and Strabismus in Neurasthenics, *New York Medical Journal*, January 22, 1921.

ACCIDENTS AND COMPLICATIONS FOLLOWING HEMORRHOID OPERATIONS.

BY

CHARLES J. DRUECK, M. D.,
Chicago, Ill.

Professor of Rectal Diseases, Post-Graduate
Medical School & Hospital, Rectal Sur-
geon to Peoples' Hospital.

Pain.—Every patient experiences some discomfort following an operation for hemorrhoids, while some suffer severely. There is the element of the personal equation in each case. There is a wide variation in the degree of pain suffered by different patients. Many of the complications occur inversely in proportion to the care of details given the operation and after-treatment. In the ligature operation, if a groove is cut deeply thru the mucous membrane above the dissection, so that the ligature embraces only the mass of veins, the pain will be much less severe than if the mu-

cous membrane is included in the stump. In this operation as performed by the author, there is seldom any severe pain after a few hours. The clamp-and-cautery operation occasions much less pain than do the older types of ligature-operation, altho sometimes there is intense suffering after this operation. In any type of operation, much of the subsequent pain experienced depends upon the amount of pinching, bruising or pulling that has been suffered by the tissues adjacent to the structures removed, and a careful consideration of this fact will spare the patient much unnecessary suffering.

Much of the pain subsequent to hemorrhoid operation is caused by spasm of the sphincters and is particularly likely to occur when this has been an important symptom before the operation, as in anal fissure or ulcerated hemorrhoids. In some of these cases, it may continue for several days even to the end of convalescence. Hot, moist compresses give the most relief.

Edema of the skin sometimes occurs when the operation involves the mucocutaneous border, and particularly if skin tags that existed have been left unremoved. This condition is very painful and is a frequent source of spasm of the sphincter as well as a contributing factor to delayed healing. Ordinarily an opiate is not needed, still there is no harm whatever in administering sufficient morphine, hypodermically, to prevent severe pain following the operation. It is better to give enough morphine to insure complete relief at once, rather than to give smaller doses repeated. For patients of average weight and strength $\frac{1}{4}$ grain of morphine and $\frac{1}{100}$ grain of atropine suffices; but in case that does not give relief, this dose may be repeated in one-half to one hour.

If only restlessness and nervousness disturb the patient, bromides or similar mild remedies will suffice, while for the local smarting or burning hot, wet dressings or the application of iodoform powder or 10 per cent. ichthyol are very acceptable.

The accumulation of gas in the colon frequently is very annoying. When this does occur urge the patient to expel the gas. If left to himself he is likely to restrain the desire for fear that bleeding may occur, consequently, often will spend a restless, wakeful night, when he might have relieved himself, without any possible harm resulting.

This voluntary restraining excites the anal sphincter to spasm and reflexly also the vesical sphincters. Packing the rectum or the use of a tube may have the same effect, and this complication may continue for several days.

If the reader will refer to the nerve systems of these parts as they branch from the pudic nerve, he will see how intimately one pelvic organ is associated with another and then appreciate how easily the vesical sphincter is affected by any trauma of the anus or perineum. Possible retention of urine always is feared by the surgeon: still, when operating under local anesthesia, little difficulty in this direction will be experienced if the patient has been properly prepared and is not too soon disturbed after the operation. Never suggest the subject to the patient nor try to have him void his urine within the first twelve hours after the operation. It is an effort for a healthy man to empty a partly filled bladder, while if you wait twelve hours, or until your patient's bladder is filled, he will urinate voluntarily, especially if he is allowed to slip out of bed and use a commode or to urinate while standing. The patient's blad-

der should always be emptied just before the operation and only a limited quantity of liquids allowed during the first twenty-four hours following the operation. The patient should also be advised to suppress the desire to urinate for at least twelve hours. Before using a catheter, various schemes should be tried to help the patient to urinate voluntarily, as for instance, hot, moist dressings applied to the anus and pubes, douching the perineum or opening a water faucet within hearing of the patient while he sits on a jar or stands before a urinal.

The colon bacillus is always present here and a cystitis brought on by it is a very serious affair. In all cases where retention of urine exists it is wise to administer hexamethylenamine at once. Of course, the possibility of urethral stricture, vesical calculus and enlarged prostate gland or other genito-urinary disturbance as a cause of the retention must be thought of.

Hemorrhage.—Secondary hemorrhage, while not frequent, does occasionally occur, altho its probability has been much exaggerated. If the operation is carefully performed and the severed vessels are properly tied there is little danger of subsequent bleeding. If at the completion of the operation an oozing point is noticed, it must be thoroly cared for before the patient is allowed to leave the table. When secondary hemorrhage does occur, it is usually from some small oozing point that the operator thought would be controlled by pressure, or else overlooked because of an infolding edge of mucous membrane, or it may follow straining by the patient, the slipping of a ligature or the tearing away of a necrotic bit during defecation. There is also the variation in coagulability of different patients' blood and the disturbed vasomotor conditions to account for its occurrence

and persistence. The hemorrhage may be alarming and it is as liable to happen after one type of operation as it is after another.

When bleeding occurs, it must be attended to immediately. If the bleeding cannot be seen, the patient should be anesthetized, unless his condition forbids, a speculum inserted and the colon thoroly flushed out with hot saline solution. All clots are to be removed, the bleeding wound, when found, is ligated.

Pruritus.—This most annoying complication is owing to the discharge from the wound evaporating upon and incrusting the newly formed epithelium. Treatment consists in keeping the parts clean by means of frequent baths of warm water, drying carefully and applying a neutral dusting powder (talcum). If the itching persists after healing is complete, it is caused by a sensory-nerve-filament in the scar tissue or to some condition other than the operation itself.

Infections.—Abscess following a hemorrhoid operation usually results indirectly from trauma during the dilatation of the sphincter (most likely to occur if the stretching is hurriedly performed), a perirectal blood-vessel being ruptured and this resulting in a hematoma which later becomes infected and thus causes a perirectal abscess. Its onset is sudden and characterized by a chill, fever (sometimes as high as 105 degrees F.), restlessness and local pain. The treatment is immediate, thoro drainage being effected as soon as the abscess is discovered.

Stitch-hole infection may occur and if so, the stitch should be removed immediately. This stitch-infection is one of the imperative reasons for making daily examinations. Any rise of pulse rate or temperature attracts attention to this possibility and demands prompt and thoro investigation.

Erysipelas is said to be an occasional complication. The author has never had the misfortune to meet with such, and he believes that it will never occur if the patient has been carefully attended to; if it does occur the parts should be well dressed with Credé's ointment.

Anal Stricture.—Anal stricture never should occur, and its presence demonstrates lack of attention to details, either during or after operating. If the hemorrhoid operation is properly performed, the after-treatment carefully watched, and the sphincter and wound are massaged every day, stricture cannot occur. Following the Whitehead operation, there always is some narrowing. This is not serious if the wound heals by primary union; if, however, infection occurs and the wound closes by granulation, a stricture is almost certain to result.

Period of Confinement.—The duration of the confinement after a hemorrhoid operation varies with the type of the operation. Patients operated upon under local anesthesia need keep their beds but a few days. Following more extensive operations, the patient is confined to his bed for perhaps a week, altho in most instances he may have the liberty of his room or the floor after three days. He may usually return to business even tho healing may not be complete, the subsequent dressings being carried out at the office.

30 North Michigan Ave.

Diphtheria.—The prevention of the spread of diphtheria is very readily accomplished by the administration of a little garlic daily for a short period. (*Minchin, Med. Press*, October 5, 1921.) This quickly clears all carriers of infection, at the same time rendering others safe from infection.

PELIDISI AND SACRATAMA IN CZECHO-SLOVAKIA.

BY

RALPH HERZ, M. D.,

New York City.

The words "pelidisi" and "sacratama" were coined by Professor Clemens von Pirquet, of Vienna, to denote certain physical findings in the examination of children.

When the American Relief Administration began feeding the starving children of Central Europe, practically all children who applied were fed. It became apparent that America could not possibly feed all the children of Central Europe, so various methods were studied in the different countries to isolate the children who were in greatest need of nourishment.

The best method came from Dr. von Pirquet, whose name is well known because of his skin tests for tuberculosis and other advances in the diagnosis of children's diseases. The problem which confronted him, as the collaborator of the American Relief Administration in Austria, was to examine the greatest number of children in the shortest time possible with a uniform degree of accuracy and with the least amount of the personal equation which necessarily enters into the physical examination of children by doctors of the same and different schools of medicine.

Dr. Pirquet found that there was a ratio between the sitting height and the weight of the human body. The word "pelidisi" was arrived at in the following manner: "pe" means *pondus decies* (weight ten times); "li" means *linearis* (line); "di" means *divisio* (divided by); "si" means *sidentis altitudo* (sitting height). The cube of the sitting height of a normal adult, measured in centimeters, equals the tenfold of weight in grams. For instance, an

adult with a sitting height of 90 centimeters has a normal weight of $90 \times 90 \times 90$ divided by 10, which is equivalent to 72,900 grams, or 72.9 kilograms.

The pelidisi is obtained by using the reverse method, that is, taking cube root of ten times the weight in grams and dividing by the sitting height in centimeters. For a school child, the normal is not 100 but $94\frac{1}{2}$, because a child has not so much fat and musculature as an adult. Children with a pelidisi of 94 and less were considered as underfed, those with a pelidisi of 95 to 100 as well nourished, and those with a pelidisi of 101 and above as over-nourished.

While this examination is mathematically correct, von Pirquet found that it was not complete enough. Therefore, he devised a second form of examination which was founded on the four qualities of nutrition, or so-called "sacratama." "S" stands for *sanguis*; as a determining factor of the condition of the blood, the hemoglobin content of the blood is noted. "Cr" stands for *crasitudo*, the fat content of the skin. "T" stands for *turgor*, tension of the skin thru its water content. "M" stands for *musculus*, the development of the musculature.

The ingenuity of the word is further increased by the simple manner in which the vowels can be changed to indicate the intensity of all four qualities: "i" indicating excessive, "e" abundant, "a" medium, "o" reduced, "u" slight. The combination of the consonants and vowels gives the qualification. For instance, "so" would indicate reduced hemoglobin, "cra" a medium amount of fat, "ta" a medium turgor, "mu" a very weak musculature. The combination "so-cra-ta-mu" gives in one word the state of nutrition.

The children are classified into four categories. All children whose state of nutrition contains no "o" or "u" belong to Class O, as, for instance, sacretama. Class 1 are those children who have one bad mark, as socratama. Class 2 includes those children who have two bad marks, as socratoma. Class 3 comprises those who have three or more bad marks, as sacrotomu, a child with good color, reduced fat, turgor, and flabby musculature.

The children of Vienna and Austria as a whole were examined by the above methods, and the feeding carried out according to the result of these examinations.

In March, 1921, Captain Ringland, chief of the American Relief Administration for Czecho-Slovakia, wanted to have an accurate knowledge of the condition of the children which they were feeding in that country. At the same time, the American Red Cross had a health program and it was necessary to know where the child centers were to be located. Captain Ringland and the director of the child health program of the American Red Cross for Czecho-Slovakia, Dr. H. O. Eversole, decided to examine the children according to the "Pirquet" method. Accordingly, Dr. Eversole detailed Dr. Gano and myself to Vienna to learn this method at first hand.

We found that for physicians, the examination was very simple. For the sitting height, a simple apparatus was used, a triangular board in one corner of which an upright staff is inserted which graduates in centimeters. The child sits on the board. A thin rod suspended by a weight running on a pulley is brought down on the child's head and the number of centimeters is noted. The weight is obtained in kilograms, and from this the pelidisi is figured. Pir-

quet compiled a wall chart so that it is unnecessary to figure the result for each child separately.

The sacratama is a little more difficult, for it involves the point of the examiner's personal equation, but one can soon become quite adept by practice.

Upon our return to Prague, we organized a class of ten Czech and German physicians. These physicians were given a short didactic course with practical demonstrations in the American Relief Administration kitchens. Besides instruction in pelidisi and sacratama work, these men were also instructed to examine children for obvious evidence of tuberculosis, syphilis, tonsils and adenoids, rickets, scurvy, scabies and other evident diseases.

In one week, these physicians were sufficiently accurate in the technic to be sent into the field to begin the work of standardizing all of the children being fed in the A. R. A. kitchens in cities of 10,000 inhabitants and over. Under my supervision, the work was carried on for ten weeks. In that time, there were examined 50,000 children. Of these, 65 per cent. had a pelidisi of 94 or less. About 40 per cent. had a sacratama of Class 3. This gives an interesting result from a medical standpoint in that it shows that 65 per cent. of the children now being fed in the A. R. A. kitchens are still undernourished.

This proves that the problem now is not only one of mass feeding, but a medical one as well, which can only be handled thru medical care and modified food. With this in view, the first six American Red Cross Health Centers were located in cities where the examinations alluded to above show the highest percentage of pelidisi to be 94 or under, and a correspondingly bad sacratama.

VEGETABLE OILS IN INFANCY AND YOUNG CHILDREN.

BY

GEORGE DOW SCOTT, M. D.,

New York City.

Foreword.—Some two years or more ago I stumbled upon an article on fats in a standard work on physiology and became interested in it. This article reminded me that fats were not digested until they reached the small intestine; that they suffered no chemical or physiologic conversion in their passage thru the stomach en route, and that they possessed high caloric value altho deprived of the vitamine principles of other foods. Clinically, I resolved to put this information to the test. Now in infancy and young childhood, there are found certain physiologic depressional states following long continued conditions of malnutrition with gastritis or without, and more or less extreme, transitional periods, in truth until full recovery is arrived at. The particular importance of this fat medication is well seen in three classes of cases:

1. Inanition, due to many causes such as sudden weaning, poor mother's milk, infant delicate from birth, sudden change of breast feeding to poor milk modification, mixed feeding.

2. Malnutrition, marasmus, particularly when due to digestive disturbances, when the stomach is often intolerant of food but the digestive functioning of the small intestine is still good.

3. Following long continued fevers such as the pneumonias, the contagious diseases, where the body has drawn upon its reserve fat content before, during and after lysis and crisis.

This intervening period, long or short as

it may be, may be a dangerous one and may cause the attending physician or guardian a great deal of anxiety. The little life may hang in the balance, for the digestive forces may be so low that catabolism rather than metabolism exists. During such intervals while the animal proteins and carbohydrates may be badly borne, the fats, on the contrary, may be easily assimilated. With metabolism at low ebb, with the enzymes and internal secretions altered, weakened and perverted, it is difficult to give to our enfeebled patients a milk and cream modification of sufficient strength to overcome in quick time the physiologic undermining, and such patients suffer from a serious fat starvation as well as a devitalizing reduction in the protein and carbohydrate food essentials, for the body in need of fat calls upon the reserve supply of both the latter. Of fat starvation in infants and children, we see multiple examples. There may be hunger, thirst, gastric and intestinal pain, vomiting, retching, belching, a diminished pulse and respiration rate, a fall in temperature, often below normal, great muscular weakness and emaciation. The amount of urine is lessened and as a characteristic feature there is a diminution in the expired carbon-dioxide from the lungs. The duration of this nutritional depression depends to a great extent upon the amount of reserve food in the body, principally the fats. The clinical picture-complex as seen in hospital and dispensary practice once seen is never forgotten—the extreme emaciation, often a mere skeleton, the little patient peering from sunken eyes in deep-set sockets, sunken cheeks and fontanelle, the retracted abdomen, the skin of arms, legs and body in folds from the loss of subdural fat. There is often coexistent extreme weakness and

feebleness, anemia, purpura, eczema, etc. It has been observed, states Brubaker in his "System of Physiology," that there is a steady diminution in the excretion of carbon-dioxide in cases of fat starvation. As fat contains about 76 per cent. of carbon, one part of carbon equals 3.666 parts of carbon-dioxide or 1.31 parts of fat. Hence, for every one gram of carbon or 3.66 grams of carbon-dioxide excreted it may be assumed that 1.31 grams of fat have been metabolized. The daily excretion of carbon-dioxide indicates the extent of fat metabolism.

Now in relation to the fats themselves, certain facts should be remembered—that fats are poor in oxygen but rich in carbon and hydrogen, richer in carbon than in starch or sugar, containing two and one-half times as much, and rank well to the top among foods and are of great importance in animal life; that in the intestine the fats are completely broken down into glycerol and fatty acids; that preliminary emulsification is an advantageous but not an essential condition; that the fat is probably absorbed as glycerol and fatty acids and the latter in great measure is first converted into soaps; that the bile aids the digestion of fat—the bile salts acting in the same way as the co-enzyme of pancreatic lipase; that bile also is a solvent of fatty acids, the intestinal membranes are moistened by it and assist in the fat absorption by reducing the surface tension of the intestinal contents, and that the fats according to Sherman have more than twice the energy value of either the protein or the carbohydrates; that they are more easily assimilated than both and assist materially in their digestion, and it is a very interesting fact that most of the fat of our foods is oxidized to CO_2 and H_2O in the tissue cells as fast as

it comes to them affording molecular and chemical energy and maintaining a normal temperature reducing or elevating it in fever or in conditions of exhaustion by liberating a large amount of heat.

The primary function of fats or oils, as you will, is to produce heat; for one grain of fat burned produces 9 calories of heat and the combustion of one grain of carbon to carbon-dioxide produces 8.080 calories while the presence of oxygen actually reduces the caloric value of the substance. Hence, the higher proportion of carbon and the lower amount of oxygen, the greater will be the heat-producing power of foods.

And we go merrily onward giving our fats, getting happy eulogies until we stub our toe on fat intolerance. How much fat is needed for a certain infant cannot be computed in the terms of calories, but must depend upon a certain fat tolerance for that individual patient which means the amount needed to stimulate the metabolism of the proteins and carbohydrates. Fat tolerance may be both physiologic and pathologic. Under the foregoing class are seen patients with a gradual increase in adipose tissue, loss of appetite or fitful appetite, the abdomen may be distended, the intestines filled with gas, the mucous membranes pale and anemic, there may be meteorism and tenesmus. The stools often loose, green or green-yellow in color at times contain fat curds, fat globules, undigested protein, and are acid in character. By gradual degrees, the condition assumes the pathologic and the character of the excreta may change to free fat, soap stools, and varying in color from white, gray-green-yellow, often large, hard or dry, many small soft, fatty and often large casein curds and the products of putrefaction may also be present. In health, the ab-

sorption of fat is undoubtedly between 90 and 98%. It is lessened in infants and young children having soapy stools and diarrhea. Physiologically, fat may be present in normal stools in the form of soap, but the pathologic increase, the excessive ingestion of fats retards the emptying time of the stomach, delays the normal secretion of HCl, and vomiting or regurgitation may result. In such instances the little patient fails to gain, there is gradual loss of weight with vomiting, flatulence, colic, loss of appetite and irregular fever. Healthy children can assimilate solidified fats, oleomargarine, so-called for the distinction between liquid and solid fats for the most part is a physical one only, but the sick may reject them. Such patients thrive best on a fluid fat or oil, their melting point at about the temperature of the body and capable of being easily emulsified and digested. For fats have different melting points—beef fat, for instance, has a higher melting point than lard. Quite apart from the digestibility of animal fats such as cream, and of vegetable such as the oils, there is the question of standardization. Thick cream contains of fat 56.09%, thin 29.29%, dependent upon the breed of cows, kind of fodder, the season, open air, sunshine, and fresh food, and upon the cupidity and appetite of the dealer. It is easily decomposed under the influence of light, oxygen and certain kinds of microorganisms according to Heineman. On the contrary, the vegetable oils, the different types have a fixed fat content. It would seem by clinical experimentation that while the infant can assimilate only just so much milk fat, with a vegetable oil associated it can digest of the combination more fat. In the administration, it is practically immaterial whether the oil is cod liver, cotton seed, cocoanut, peanut, corn

sunflower, soy bean, sesame, or any other just so long as the little patient enjoys it as they all contain about the same essentials, for the baby has often the same apologetic preferences as grown-ups. Pure oils are practically free from water and contain no indigestible substances such as the crude fibres of vegetables and the cartilage and tendons of meat. Cod liver and olive oils are the two oils best represented in the hospitals and dispensaries of my experience.

Cod liver oil has an unpleasant taste, its administration has often to be forced, it must undergo in its manufacture, at least, a partial decomposition, but it does possess a high iodine value—100 to 160%, probably one higher than any other oil. Olive oil, on the other hand, is almost perfect as an ideal fat and valued as such almost since Genesis. It is a gentle laxative, especially where malnutrition exists, and Rosenberg believes it to be a strong cholagogue as well, while Barbera finds that the secretion of the bile after the ingestion of fats is increased more so than after carbohydrate feeding. It also possesses the appetizing piquantness of a raw over a manufactured product. Easy to give and to take, the little patient thoroughly enjoys it. Originally pressed by hand the olives plucked just before ripeness are macerated in a mill or between cloths; subjected to pressure, the resultant oil washed in water to remove impurities and the oil subsequently collected. The pericarp abounds in this fixed oil. Of the two types of olive oil, the American and the Italian, the former product has of fat 20-30%, while the Italian contains between 40 and 60%. Akin to other similar oils, olive oil contains olein, palmitin and sterin altho less of the latter than in ordinary solid fats and a small proportion of linolic acid, the oleins being solvents of palmitin and sterin,

depositing the latter when the temperature falls below 10° Cent. They are found in greater quantities in the vegetable than in the animal fats. The pure oil shades from a pale yellow to light green, the virgin oil, so-called, possessing no odor or taste, its specific gravity being 0.910 to 0.915 at 77° F. The color is due to differences in soil, climatic conditions and to manufacturing methods. The flavor depends upon the variety of tree, stage of growth at which the olives were gathered, and the method of separating the oil from the pulp, for fruit picked before ripe is bitter. The oil must be kept in a dark, dry place, unexposed to light, air or moisture else it becomes rancid undergoing slow destruction of color with the formation of a precipitate and free fatty acids.

Extreme cases of malnutrition and marasmus are supposed to have a diminished fat power absorption. In many such cases, my experience would warrant the conclusion that olive oil can be advantageously pushed except in the torrid heat of summer, for it is digested and absorbed, given in increasing doses from 5ss warm once, twice three times a day after food, and even to 5 1, 2, and 3, or more at the same intervals.

Where the stomach of the little patient is tolerant of food, where the duodenum is functioning normally, particularly is this condition seen in older children, the addition of malt extract to the oil in equal parts in moderate quantities aids digestion, increases the appetite and stimulates gastric secretions, and is of high caloric value, one gram engendering 9.3 calories. Malt extract is made up of maltose, dextrin, nitrogen and ash including phosphoric acid.

It must be remembered that the ingestion of fat alone over an extended time will not

keep life within the young patient, because this is a constant loss of tissue protein from the body which finally weakens the vital organs. However, the fats, that is the oils, will act as a bridge to the time when our normal diet takes a firm grip. Bartman noticed that fat given to the extent of 150% of the energy requirement was readily absorbed and spared the protein to a maximum of 7%. If a large amount of fat is absorbed it is burned up producing heat and does not draw upon the body fat.

CLINICAL STUDIES.

Inanition. Raymond Schoenwandt, five months old. Seen first time September 3, 1919, having made a dispensary to dispensary pilgrimage.

Appearance. Extreme malnutrition—senile face, skin in folds, skeletal appearance to body, vomiting, green mucus, diarrheal stools, no curds or foulness, temperature 101° F., weight 8.1 pounds.

Diet. Bottle fed practically since birth. Lately barley water, 4 oz., Horlick's malted milk, 2 oz. each feeding. Advised olive oil $\frac{1}{2}$ dram, q. i. d., apple juice, 5i between feedings, t. i. d. grade A unpasteurized milk, 3 oz., boiled water, 4 oz., lime water, 2 drams, cane sugar, 2 drams, p. 3½ hours.

Sept. 5. Weight 8.2 lbs., yellow, well digested movements, olive oil and apple juice continued. Temperature normal.

Sept. 15. Weight 8.6 lbs., milk, 5 oz., oiled water, 3 oz., lime water, 2 drams, granulated sugar, 2 drams, p. 3½ hours, olive oil and apple juice continued.

Sept. 19. Weight 9.2 lbs., yellow, soft, well-digested stools. Imperial granam, 1 dram, t. i. d. to milk modification, apple juice and olive oil same.

Oct. 10. Weight 10 lbs., normal stools. Imperial granam, 1 dram each feeding, olive oil, apple juice continued.

Oct. 17. Imperial granam, 2 drams each feeding, lima bean purée, 2 drams each feeding, feedings every four hours, milk, 6 oz., barley water, 2 oz., lime water, 2 drams, sugar, 2 drams, weight 12 lbs.

Nov. 25. Weight 13½ lbs., 4 teeth, 2 upper and 2 lower. Milk, 7 oz., oiled water, 1 oz., sugar, $\frac{1}{2}$ dram. Imperial

granum, 3 drams each feeding, lima bean purée, 3 drams each feeding, olive oil and apple juice.

CONVALESCING FROM EXTREME MALNUTRITION.

Dido B., 10 mos., admitted Feb. 12, 1920. Diphtheria, dying. *Physical examination:* Heart, lungs, liver and spleen negative. *Subjective condition, rhachitis and malnutrition.* On admission, antitoxin 5,000 units intramuscularly. Small white patch left posterior pillar—not diphtheritic in appearance—pressure, sore occipital region of head with discharging pus; left ear discharging with thick yellow pus; large cervical abscess—left side of neck discharging thick yellow pus—profuse mucoid nasal discharge, buttocks excoriated. Oily eczema of scalp, large angry tonsils, adenoids, furred tongue, mucoid discharge from both eyes, small umbilical hernia, abdomen distended and hard, moderate amount of gas, no epiphyseal enlargement on ankles or wrists, rosary marked, slight bowing of lower limbs, slight turning in of feet on ankles.

Temperature 98 to 103° F., lysis to 99° F.

Pulse 122 to 152, average 128.

Respiration 28 to 40, average 28.

Hospital formula:

Pasteurized milk	..... 3¼
Barley water	..... 1¼
Cane sugar	..... 2%

Own formula:

Whole unpasteurized milk	... 6 oz.
Boiled water	..... 2 oz.
Sugar	..... ½ dram.
Lime water	..... 2 drams.
Strained cereal	..... 1 dram.
Each bottle every	3½ hours.

Maltine and olive oil aa drams. 5ss t. i. d. after feeding first week; then 5i t. i. d. to end of convalescence.

Laboratory examination of stools. Few fat globules, no fatty acids or soap stools—urine negative. Weight from 8 lbs. to 14 lbs. in 16 days.

Stools. Greenish, watery, light flaky fat curds, to yellow; stools with no curds, semi-soft in character.

Improvement continuing. (March 8, 1920.)

Lawrence M., 3 years, convalescing from broncho-pneumonia. Admitted January 30, 1920, pertussis, dying. Ill 14 days before admitted.

On admission. Broncho-pneumonia both lungs, distention of stomach and large and small intestine with gas, acutely inflamed tonsils, scattered reddened papules over body.

Heart, lungs, liver, spleen negative. Schick's test negative. Paroxysms severe.

Temperature ranged from 100.8 to 105°, lysis to normal.

Pulse 110 to 160, dropped to 120 average.

Respiration 30 to 60, average 32.

Liquid diet followed in 2 days by semi-soft, then nearly solid.

R Tinct. digitalis m. x. q., 4 hrs. for 3 weeks.

Whiskey 1 dram, every 4 hrs. for 2 weeks.

Maltine and olive oil, equal parts, 1 dram, t. i. d.

Maltine and olive oil, equal parts, 2 drams, t. i. d.

Maltine and olive oil, equal parts, 3 drams, t. i. d., at weekly intervals.

Later examination. No fat in stools of any description. Urine negative.

WHICH, WAR OR PEACE, MAN'S FINAL GOAL?

BY

PERRY MARSHALL, M. D.,

New Salem, Mass.

In a recent article in *AMERICAN MEDICINE* we are told that war is a state of nature, that "the entire universe is in a constant state of war." "The planets are kept in their orbits by force opposing force." In the World War armies were destroyed by force opposing force, rather than kept in place. The misconception of the whole article is that energy is wholly, or chiefly destructive whereas probably the opposite is true.

Nor is force all brute force. It is intellectual and moral—skill and right. We are told that right has little to do with winning in a war. Germany knew better when she persistently sought to convince the world that the war was wrongfully forced upon her. She knew that right would—by the law of attraction?—attract the nations of the earth to each other against her. And so it did, and the eternal right defeated her. "The mills of God—right—may grind slowly, but they grind exceedingly fine," in the long run.

Man is not a brute, merely, looking down upon the earth o'er whose grasses he grazes. He is also an anthropos, looking upward, looking on the sun and planets, all of which he weighs and measures, and tells the stars, their distances and places. At his best, he is a moral uplooker. If not from times primeval, yet for a long time, conscience and a sense of right have been evolving.

We are told that "ambition and the progressive spirit of man tends in spite of himself toward the military." This is also told, and taught in Hindenburg's recent book. In man's lower and earlier estates the fighter was the only hero—the only great man. Not so now, tho we still inherit the trend to honor most, such as our ancient ancestors honored. But Napoleons do not stand now in world estimate where they did only a century ago.

Col. Ingersoll, himself somewhat of a soldier, once standing at the tomb of Napoleon, said: "I thought about the career of the greatest soldier of the modern world—I thought of the orphans and widows he had made—of the tears that had been shed for his glory, and the only woman who had ever loved him, pushed from his heart by the cold hand of ambition, and I said, I would rather have been a French

peasant and worn wooden shoes. I would rather have lived in a hut with a vine growing over the door and the grapes growing purple in the amorous kisses of the autumn sun, with my loving wife by my side, knitting as the day died out of the sky, with my children upon my knee and their arms about me—I would rather have been that man, and gone down to the tongueless silence of the dreamless dust, than to have been that imperial personation of force and murder known as Napoleon the Great."

"Ambition" now finds other ways to gratify itself in a thousand fields of intellectual life and struggle: chemistry, astronomy, philosophy, history, art, and invention. If "Jack Dempsey," as the article states, is more to the brute man, he is not more to the higher man, like Abraham Lincoln, for example, himself in comparison with the pugilist. Even he, with his frown, felt himself in the presence of his superior, when the Frenchman, Carpentier, crushed and bleeding, looked up and smiled thru his gore-covered face, extending his hand to his physical conquerer. But Carpentier won with the higher world after all.

Business also offers ample opportunity for awful competition and struggle. We are told that German militarism is responsible for German efficiency. Is it not rather German division and subdivision of labor, whereby a man does one thing only till he can do it with efficiency, making the great narrow man, instead of the great broad man? Look at the inventions due to the broad man: the telescope, steam navigation, locomotive engine, telegraphy, the submarine, the aeroplane, the telephone, the wireless, anesthesia, *et al.*, not one of the first class, by a German.

The article in question concedes that "No crime is so horrible as to be considered un-

justifiable by the laws of war." International laws are agreements of nations on barbarities to be abandoned.

Gain is slow but the higher things of intellect, conscience and the heart are winning and will win. Man made better will fight less. Confucius, Buddha and Jesus are higher names than any warriors or kings of their times. Wilberforce, Howard and Lincoln will not be forgotten.

Even Shakespeare probably could have held no office in the state, nor would have wanted one. But he is greater now than any of England's warrior kings, or all of them, may be.

AMETROPIA AS A CAUSE OF VARIOUS DISEASES.

BY

EDWARD J. BERNSTEIN, M. D., F. A. C. S.,

Detroit, Mich.

Those of us who have been doing accurate refractions are well aware of the widespread influence, which follows proper correction of ametropia, thru the reflex nervous system. And that neuroses manifestly in some distant organ, frequently—not invariably—are apparently cured. It is a fair assumption that a very large number of us are quite capable of, and really do, painstaking work in this field and get very remarkable results. Doubtless there are a number of incompetents in this field as in other specialties in medicine.

We all recognize the splendid ability of Dr. Geo. M. Gould and none would withhold from him all the credit due for his pioneer work, in conjunction with a number of other conscientious refractionists in establishing the rôle of, "Eyestrain and Reflex Neuroses," but it is presuming too much

on our credulity to expect us to subscribe to some of the things asserted by him—in the last article of his—in the October number of AMERICAN MEDICINE, more especially as they are not founded on fact.

Let me make this assertion. Reflex neurones may have their origin in any number of organs. It seems to me, a very wild statement to say, that "it is only the blind who do not have headaches or Ménière's disease," (?) (modern otologists have not recognized Ménière's disease, for the past twenty years) or migraine, or that among "other diseases of the eye really often cured by refraction, iritis, keratitis, retinitis and surely cataract are almost always due to errors in refraction."

I am quite sure Dr. Gould stands isolated in this assertion, and likewise in reference to the breakdown of telephone workers being due to uncorrected eyestrain. He quotes the Royal Commission of Canada as a substantiation of his assertion. As a matter of fact, as he quotes them, some thirty-three conditions are mentioned by them, among them—eyestrain is *one* of them. We would like to know if Dr. Gould has ever accurately refracted one hundred telephone girls and compared their ability to keep on their jobs with one hundred others in whom that was a negligible factor, presumably Dr. Gould, will say it is never negligible. Well, some of us "hae our doots."

Dr. Gould's reference to dizziness and maintenance of equilibrium seem to most of us likewise lamentably faulty. He says, "Ménière's disease was and is nothing more than an attack of sick headache (migraine), dizziness, vomiting, etc." This description of Ménière's disease (?) is decidedly passé, and it is truly deplorable that one of Dr. Gould's established reputation as a scientific man, should say this. "The function

of the semicircular canals as supposed is arrant nonsense. If the labyrinth had such a function one would be vomiting and giddy every time and all the time, etc., and sleep would be impossible."

Surely Dr. Gould must be aware that the functional tests for the labyrinth are all conducted with the eyes closed or blindfolded, and as such the question of the rôle of the eyes is certainly ruled out, moreover surely he must know of the comparative tests for equilibrium as conducted on the deaf mute in whom all labyrinth function is destroyed, as against those whose hearing and labyrinth function is normal.

Surely we have all marveled at the ability of the structural steel worker to walk on beams suspended in mid-air, and I am quite sure that only the smallest number of these men wear glasses yet I am as sure as Dr. Gould can be that if their refraction would be estimated, we would find a very appreciable error in most of them, yet they do this stunt with impunity, when he or I, whose refraction is most probably well corrected, would be killed if we made the attempt. I was very much amused a few weeks ago, to have one of Dr. Gould's ardent admirers acknowledge to me that he could not cross a little rustic bridge without getting dizzy and have everything black before his eyes and he refused to go on while others of the party, some with, some without glasses crossed with impunity. If I mistake not, this gentleman's error was corrected by Dr. Gould himself and he, likewise, has been most ardent in his claim for the exclusive rôle of visual acuity in abating dizziness. It would seem to me that progress to knowledge is best furthered by moderation in claim and not by blindly trying to fit every condition to our pet theory.

It also seems likely that such extravagant claims, rather serve to bring ridicule on an otherwise very important means of correcting reflex neuroses.

And now to the crux of my contention. I have a patient now under my care, who complains of dizziness and falling when he walks. He is in constant danger of doing so when crossing the street, especially if he turns his head suddenly. Now if Dr. Gould will cure this man by correction of his refraction, I will pay his expenses to Dr. Gould's office, fees, railroad and hotel bills, if not he is to get the expenses from Dr. Gould. The case is as follows:

Mr. W., aged 65 years, complains of dizziness, frequently falls in the street especially if he turns his head quickly. These attacks came on three years ago and have been getting steadily worse. Was struck on left ear fifteen years ago, since which he has had tinnitus-aurium which has been gradually increasing, he *thinks* he hears well.

Right side hearing watch 100-150, whispered sentences 10 meters, tuning fork tests show a mild form of middle ear involvement. Left ear, whispered sentences at 20 C. M. only loudest sounds of 04 fork heard per air; bone conduction 20/70 of normal, but aerial conduction slightly better.

His vision is R. E. 20/30; to make sure that the visual defect was not the cause of his trouble I examined him under full homatropine mydriasis and corroborated the test at three different sittings.

I found that he required:

R. E.—1. 5+0.5 DCYL Axis 60=20/15
L. E.—1.25+0.5 DYCX Axis 120=20/15

A plus 3 SPH added to this gives him perfect reading vision. He had never worn glasses and so he has had some difficulty in getting used to these. But they have had absolutely no effect on his symptoms.

It hardly seems likely, in his case that ametropia, was the cause of his trouble as he certainly has been ametropic all his life, while his trouble dates from the blow on his ear fifteen years ago.

I did this to make sure of the fact that

his ear condition was solely causing his symptoms. I feel sure my diagnosis of labyrinth trouble is sustained and that he will *not recover*.



The Endocrine System in Infancy and Early Childhood.—

We are only on the threshold of knowledge of relations of the ductless glands to each other or the clear understanding of the endocrine system, the great rôle it plays in the development of the growing child, both physically and mentally. But, says Hill (*Southern Medical Journal*, September 21, 1921), the possibilities are vast for therapeutic measures.

Heredity plays a great part in endocrine dysfunction; as proof we need only to note the families who are underdeveloped either physically or mentally, or both. Of course, toxemia and other perverted psychologic processes and environment influence these conditions. But mental ills should now be considered just as much as physical ills and when possible, diagnosed.

There is such a close hormone relation between the whole endocrine system that it will require much work on the part of both the laboratory investigators and the clinicians to clarify the situation to the extent that we can say in a given case, that it is this or that gland which is at fault, whether the secretion from the ductless gland is influencing a gonad or a gonad influencing a gland, etc.

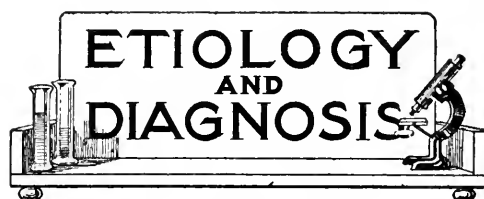
In administering ductless glands, one must admit that preparations are abnormal to begin with. The glands used are dried and only the hormones that are relatively stable can be preserved. Even here, we have no absolutely certain method of checking our findings and must usually reason by inference and deductions in the interpretations of results. However, we are on reasonably safe ground when we can by administering preparations of a particular gland, prevent the occurrence of symptoms that would otherwise result from the extirpation of the gland in question.

It is well to remember that much of the rapid advance of the knowledge of the endocrine system has come about thru clinical observation. It is not the author's intention to belittle the significance of what has been brought to recognition thru experimental pathology for, as he well states, this alone has made possible the rapid advance of the clinical side.

The Use of Parathyroid Gland Substance in the Convulsive States.—Opinions are still in a formative state, but the results which Jelliffe (*N. Y. Med. Jour.*, December 4, 1920) has obtained from investigation and noted in the literature indicate that some help in controlling certain of the convulsive states may come from a carefully considered parathyroid therapy. Just to feed parathyroid to every epileptic and expect him to get well is as silly as to give every man in New York a brick and expect to get a Woolworth building. Behind the type of cases of possible action there should be present the specific features of the "hair trigger" synaptic activity. Careful study of the patient for all of the tetany reactions is needed, then one may have some foundation. Therapeutics are so empirical at best, however, that even a shotgun use of the parathyroid may bag a bird when one least expects it. Interestingly enough, it has seemed that parathyroid given by rectum in its crude state is its most effective form. Given in other ways, by the gastrointestinal canal, it undergoes destructive digestive changes; even hypodermic use seems to alter its composition but taken by way of the rectum it would appear that no such deterioration takes place, and some very surprising and striking results have been obtained, not in the cure of an epileptic specially, but in the help of this one particular factor.

Use of Pituitary Extract in Cesarean Section.—For many years it was the habit, according to a writer in the *Medical Standard* (August, 1921) as soon as the abdominal wall was incised, but before opening the uterus, to inject two barrels of ergot into the arm or thigh of the patient for the purpose of stimulating the retraction of the

uterus and thus preventing bleeding. When pituitary extract came into use we employed it in preference to ergot. In several instances, however, in which it was necessary to free dense adhesions, the action of the drug became manifest before we were ready to incise the uterus, with the result that it became tetanically contracted, and seemed to interfere with the placental function. While this had no serious consequences, we thought it safer to defer employing it until the uterus had been incised, and we then developed the custom of injecting 2 c. c. directly into the uterine substance whenever the uterus did not contract satisfactorily or if the hemorrhage were excessive. Thus far no deleterious effects have been observed, but in view of the fact that apparently aseptic abscesses sometimes follow the injection of pituitary extract into the muscles of the thigh, it must be assumed that sooner or later such an accident will happen when it is injected into the uterus, when, of course, its consequences may be serious. For this reason we have recently abandoned the practice and now inject the medicament into the muscles of the thigh as a routine procedure as soon as we are ready to incise the uterus.



Concerning the Schick Test.—The Schick test is a simple clinical test, says the editor of the *Med. World* (October, 1921), which shows whether a person is susceptible to diphtheria or not. It is perfectly harmless and of great accuracy in its reaction. The reaction is told by sight. The test fluid must be injected into the skin, not under it. A fine needle is necessary—26 gauge, $\frac{1}{4}$ inch. The sterilization must be accurate and thoro by boiling, or by alcohol and rinse.

To make the test, inject 0.2 mil of the unheated and properly diluted toxin intradermally on the flexor surface of the right forearm, about two and a half inches below the bend of the elbow, and a similar amount of the heated diluted toxin used for control in the left forearm (Dr. A. Zingher, *N. Y., Jr. Lab. and Clin. Med.*, vi. 3). If a person is susceptible (not immune) to diphtheria, within 24 to 36 hours a definite, well-circumscribed area of redness forms about the size of a five cent piece, which gradually becomes more marked

within the next two or three days, reaching its height on the fourth or fifth day. Make a preliminary reading at the end of 48 hours and a definite reading at the end of 96 hours, when the positive reactions will be at their height. Pseudonegative reactions appear much earlier and run a shorter course. Adults give two or three times as many pseudonegative as positive reactions.

The toxin-antitoxin material should be prepared in a reliable laboratory. It will "keep" six months.

Outline of Right Heart.—The shadow of the right heart is a smooth curve in normal conditions, and Neumann (*Deutsches Archiv für klinische Medizin*, August 30, 1921) discusses the significance of the change when the outline shows two smaller curves instead of one single large one. The upper curve represents the enlarged left auricle and the lower the right auricle. This is a typical finding with mitral or aortic stenosis, as he shows by roentgenograms of typical cases, and also in arteriosclerotic contracted kidney. In all of these there is the enlargement of the left auricle which entails the double curve.

The Hemorrhages in the Newborn.—Losee (*Med. Record*, Sept. 24, 1921) concludes his paper as follows: 1. There is no definite etiology for the spontaneous hemorrhages of the newborn, but both in this type and in the traumatic type bleeding persists because the blood system is not complete at birth. The addition of normal adult blood is rational therapeutics because it supplies the substances that are necessary to promote clotting.

2. The blood of both the infant and the donor must be examined for isoagglutinin before transfusion, with the same precision that is customary in transfusing an adult.

3. Sixteen cases of serious hemorrhage in the newborn have been reported with one death, and whereas in a large series of cases there would still be a definite mortality, the former percentage has been greatly reduced by the intravenous administration of whole blood.

Dysmenorrhea.—John Van Doren Young (*New York Medical Journal*, October 5, 1921) outlines the lesions of true dysmenorrhea, a condition without gross pathology, and urges that the endometrium be spared, because it is a functioning organ and seldom involved as a causative factor of dysmenorrhea. He points out that pathologic conditions of the myometrium are causative factors in the production of dysmenorrhea as is borne out by the relief obtained in some cases by the use of the stem pessary, and the usual relief after childbirth, as both undoubtedly develop the myometrium, dilatation of the cervix being only a secondary result. A warning is sounded, however, against the use of the stem pessary, even of glass, in the presence of infection. In searching for a

method of producing rhythmical uterine stimulation, and at the same time hyperemia, with the idea of developing the myometrium and improving the pelvic circulation, Young has devised an instrument which is an application of the Bier's hyperemia method to the uterus. It consists of a suction syringe, a rubber tube with vent valve, and a long glass cup which fits over the cervix. Cups may be made of any size or shape to meet any indication. The value of this instrument is ease of application and rhythmical regulation of the stimulation. The exhaust pump is operated by the nurse for from five to ten minutes. The instrument is also useful for emptying infected cervical glands and removing viscid cervical mucus, in both cases rendering the application of iodine or other medication more effectual. In the treatment of dysmenorrhea, the instrument should be applied twice a week at first, then once a week, and later just before the menstrual period.

Surgical Aspects of Abdominal Tuberculosis in Children.—Ladd (*Boston Med. and Surg. Jour.*, September 15, 1921) claims that abdominal tuberculosis is as frequent in the first year of life as in any year up to twelve years. Raw milk is not a more frequent source of infection than any of its products. Most cases come thru the intestinal tract. Altho the disease is more or less chronic, the symptoms for which these children seek relief are in most cases acute and recurrent. From a study of all types of cases—a survey extending over a number of years—the writer, in summing up, states that:—

The diagnosis of primary abdominal tuberculosis in children is often difficult.

The variety of its types of manifestation had led to confusion in its treatment.

Hygiene, diet and out-door life is the foundation of all treatment.

In the stage of localized mesenteric adenitis, surgical incision is logical, successful, and probably prevents the other stages developing.

In the ascitic stage laparotomy with evacuation of fluid is to be recommended when the patient fails to respond to medical treatment after a reasonable length of time.

The prognosis in the extensive adhesive stage is poor with any treatment and operation is resorted to only for the hope of relieving obstruction, in which it has been occasionally successful.

The Law of Cardiac Muscle.—Lewis, writing in the *Quarterly Journal of Medicine* (July, 1921), classifies the muscle fibers of the heart as follows, viz.: (1) Purkinje fibers; (2) auricular; (3) ventricular, and (4) nodal fibers. These four groups differ both as to size and glycogen content, both being greatest in group 1 and diminished progressively in the order named, the nodal fibers being the smallest and having the least glycogen. Now it has been found that the rates of conduction of the four groups also vary in the order named, being highest at 4,000 mm. per second in the Purkinje fibers and low-

est in the nodal fibers at 200 mm. per second. On the basis of these facts, and in accordance with the law that function varies with structure, Lewis proposes the following "law of cardiac muscle": "The fundamental properties of muscle will be found to vary in their degree into four types of cardiac fiber; if for any two types we can obtain a measure, then within reasonable limits we may predict the degree for the remaining two types by placing all four in their natural order."

On the basis of this law he proceeds to consider the phenomenon of 2.1 response of the auricle when stimulated electrically at excessive rates. If the auricle is stimulated at increasing rates, the time arrives when it responds only to alternate stimuli. This is due to alternate impulse falling in the auricle when it is still in the refractory phase. The lowest rate at which stimulation results in the 2.1 response may be taken as an indication of the length of the refractory stage. The refractory period of the ventricle is known to be longer than that of the auricle. Applying the law of cardiac muscle, it might be predicted that the refractory period of the a.-v. node would be yet longer. This when tested experimentally by Lewis proved to be the case, the critical rate for the a.-v. node being lower than that of the auricle, while that for the ventricle is intermediate.

The author then proceeds to discuss the relationship between alterations of conductivity and of excitability, and shows that the known alterations of transmissions time may be explained on the basis of alteration of excitability. He concludes that there is as yet no proof of the independence of these two functions.



Calcium in the Treatment of Pulmonary Tuberculosis.—For the last two years, E. E. Prest (*Brit. Med. Jour.*, March 19, 1921) has been giving calcium lactate to a majority of the 94 patients in the Ayrshire Sanatorium. After considering certain facts as to calcium metabolism, and bearing in mind certain clinical manifestations of tuberculosis, the writer came to the conclusion that if calcium could be absorbed it might prove of great value in the treatment of tuberculosis. The female loses a great deal of calcium with the menstrual blood, and the author has found that in women suffering from pulmonary tuberculosis one of the distressing symptoms is menorrhagia, a condition which can almost invariably be benefited by the administration of calcium. He has found that calcium lactate, given in doses of 15 grains every night during alternate weeks, produces a fall in temperature, cessation of night sweats, increase of energy, cessation of

menorrhagia, retrogressive changes in the lesion, and benefit to anemic conditions. The high content of calcium in milk may be a reason for the important position of milk in the dietary of the tuberculous. The reproductive organs seem largely responsible for calcium waste, and even in males sexual excesses are accompanied with calcium loss. Prest has found calcium useful in treating young adult males, and it would probably be useful in the treatment of neurasthenia.

Acute Rheumatic Fever and Its Variants in Childhood and Adolescence.

—In his comprehensive article in the *Journal of American Medical Association* (May 21, 1921), Riesman calls attention to the fact that rheumatism is not, like typhoid fever or diphtheria, a unit disease, manifesting itself in a more or less uniform manner; the "rheumatic chain," on the contrary, has a number of apparently dissimilar links, the connection of which with rheumatic fever is not always easily established: There is abundant evidence, however, that such connection exists. Among these links may be mentioned chorea, tonsillitis, rheumatic skin affections, especially rheumatic nodules, cerebral rheumatism, acute rheumatic polyarthritis, and rheumatic carditis. In childhood, the disease presents certain important peculiarities: (1) Tho occurring in children of all ages—even intrauterine infection has been described—it is most frequent between the ages of five and fifteen years, and is especially common about the period of puberty. It seems to affect girls a little more frequently than boys, which is interesting in view of the fact that in the adult the male sex greatly predominates over the female. (2) The joint involvement is often slight—indeed, so slight as to be easily overlooked. The so-called growing pains are frequently rheumatic signals. (3) Involvement of the heart is very common in children. Neither its occurrence nor its intensity bears any definite relation to the severity of the joint involvement. Trivial joint involvement may be followed by severe cardiac damage. (4) Tonsillitis, follicular tonsillitis, is a frequent pre-occurrence in the acute attack, and is a common antecedent in the patient's history. (5) Chorea is a sequel in a number of cases. (6) Skin manifestations are more common in children than in adults. (7) Cerebral rheumatism, characterized by delirium and hyperpyrexia, is rarely seen in childhood, but is a complication of the disease in adults. In making the diagnosis one should always be skeptical when only one joint is involved. In adults, this is practically never acute articular rheumatism. In children it may be; but if the pain persists and is sharply localized in one joint or in its neighborhood, the probabilities are that the condition is an osteomyelitis, a tuberculous process, or, in infants, Barlow's disease or scurvy. The early occurrence of endocarditis or pericarditis is a point in favor of the rheumatic nature of the trouble. The acute stages of polyarthritis, arthritis deformans, or infectious arthritis may resemble

acute articular rheumatism. However, in the former the small joints are predominantly involved, especially those that are rarely attacked by articular rheumatism, as, for example, the sternoclavicular, the temporomaxillary and the vertebral joints. The inflammation does not shift so rapidly from joint to joint, and heart complications are exceedingly rare. Gonorrheal rheumatism in its acute stages may be mistaken for acute articular rheumatism; but the history, the presence of the gonococcus in the prostatic secretion, the inefficacy of the salicylates, and the complement fixation and precipitin tests assist in the diagnosis. Endocardial involvement is quite common in gonorrheal arthritis; pericardial, while it occurs, is rare. Treatment resolves itself largely into the use of the salicylates, morphine where the pain is excruciating, local measures, water in abundance, and the diet of all febrile diseases. The use of vaccines and serums is purely empiric at present, but this does not of necessity condemn their employment. General prophylactic care in the matter of clothing and the avoidance of exposure to wet and cold, should be observed. Tonsillectomy is justifiable if the tonsils are diseased.

The Prevention of Simple Goiter in Man.—

The ultimate cause of simple goiter is totally unknown notwithstanding a relatively large amount of study. Marine and Kimball (*Journal of the Amer. Med. Assn.*, October 1, 1921) state that the immediate cause is a lack of iodine. The enlargement, therefore, is a symptom and may result from any factor which increases the iodine needs of the organism, as in certain types of infection, or which interferes with the normal utilization of iodine; or it may result from actual experimental deprivation of iodine. After consideration of all the various substances, agents and theories that have been put forward as having a rôle in the etiology of goiter, Marine and Kimball state that at present we must fall back on the view that thyroid hyperplasia (goiter) is a compensatory reaction arising in the course of a metabolic disturbance and immediately depending on a relative or an absolute deficiency of iodine. No accomplishment in preventive medicine has a firmer physiologic and chemical foundation than that underlying goiter prevention. As the work of prevention is based on certain of these facts, the more important are reviewed by the authors. A milligram of iodine, given at weekly intervals, has been found sufficient to prevent thyroid hyperplasia in pups. If the iodine stored in the thyroid is maintained above 0.1 per cent., no hyperplastic changes, and therefore no goiter can develop. The method as applied to man consists in the administration of 2 gm. of sodium iodid in 0.2 gm. doses, distributed over a period of two weeks, and repeated each autumn and spring. This amount of iodine is excessive, and far beyond the needs of the individual or of the ability of the thyroid to utilize and store it. One gram distributed over a longer period would be better. The form or mode of administration of iodine is of little

consequence. The important thing is that iodine for thyroid effects should be given in exceedingly small amounts, and it is believed that most of the untoward effects recorded are due to the excessive doses employed, or, more concretely, to the abuse of iodine. The results of their two and one-half years' observations on school girls in Akron are as follows: Of 2,190 pupils taking 2 gm. of sodium iodid twice yearly, only five have developed enlargement of the thyroid; while of 2,305 pupils not taking the prophylactic, 495 have developed thyroid enlargement. Of 1,182 pupils with thyroid enlargement at the first examination who took the prophylactic, 773 thyroids have decreased in size; while of 1,048 pupils with thyroid enlargement at the first examination who did not take the prophylactic, 145 thyroids have decreased in size. These figures demonstrate in a striking manner both the preventive and the curative effects. The dangers of giving iodine, in the amounts indicated, to children and adolescents are negligible.

An Experimental Study of Prophylactic Inoculation Against Scarlet Fever.—I. Takahashi

(*The Lancet*, September 24, 1921) presents this preliminary communication in which he describes experiments made on five of his own children. His observations seem to show that prophylactic inoculation against scarlet fever with the blood of a patient, taken before eruption appears and given subcutaneously in an amount of 0.0001 c. c., causes not only no local or general symptoms in man, but protects him from infection. Even an injection given 50 days after inoculation with the blood, and smearing the children's throats with a mixture of blood and throat secretions 115 days after inoculation, did not give rise to the disease. It has been claimed by some investigators that one-third of human beings have a natural immunity against scarlet fever, and perhaps these children had this immunity. Moreover, it has not yet been proved that the dose of blood given in the infection experiments was enough to infect the children. Taking these facts into consideration, the writer says he cannot claim that these results are flawless; but, considering the results which Dr. Kusama obtained with typhus fever, the fact that the experimental objects were of the most susceptible age, and the control monkeys showed the presence of the virus in the material used for the smearing, it seems not an over-statement to say that the experiment strongly suggests the efficiency of prophylactic inoculation against scarlet fever. The writer expects to report later on the effective period of immunity and its time of appearance after inoculation.

Dietetic and Therapeutic Value of Honey.—

Starch and sugar, when eaten, undergo a digestive change before they are assimilated. Butler (*American Journal of Clinical Medicine*, August, 1921) states that in honey, this change has been made to a considerable extent by the

bees. It is easy of assimilation, and concentrated, and furnishes the same element of nutrition as do sugar and starch, imparting warmth and energy. As a medicine, honey has great value and many uses. It is excellent in most lung and throat affections, and is often used with great benefit in place of cod-liver oil. Children generally prefer it to butter. Honey is a laxative and a sedative; in diseases of the bladder and kidneys, it is an excellent remedy. As an external application it is irritating when clear, soothing when diluted. In many places it is much appreciated as a remedy for croup and colds. In preserving fruit, the formic acid it contains makes a better preservative than sugar syrup. Honey does not injure the teeth, as some sugars do.

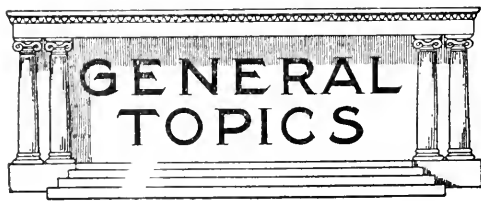
The Use of Quinine and Urea in the Treatment of Internal Hemorrhoids.—Terrell stated at a recent meeting of the American Proctologic Society (June 3-4 and 6, 1921) that he has used quinine and urea hydrochloride in the treatment of selected cases of internal hemorrhoids for the past eight years. He finds it a safe and dependable remedy, but calls attention to the fact that there are a few individuals with an idiosyncrasy to quinine. Three of his patients were found to have such susceptibility and developed annoying but not alarming symptoms following the injection of hemorrhoids with a five per cent. solution of the drug.

The remedy causes a gradual atrophy, not a sloughing, of the hemorrhoidal tumors, probably by diminishing the blood supply to the parts thru pressure.

He uses the remedy only in simple, chronic, internal hemorrhoids and advises against its use in the presence of inflammation or where there are complications demanding surgical intervention. Only about fifty per cent. of cases, he said, are well suited for this ambulatory form of treatment.

The technic used, which is rather simple, he described in detail.

He maintains that approximately one hundred per cent. of absolute cures will be obtained from the use of this remedy, if the operator will use proper discretion in selecting for treatment only such cases as are suitable.



Handicapping the Doctor By Fanatic Legislation.—Herz, in discussing the narcotic drug problem (*Medical Record*, November 12, 1921), states that the New York State narcotic commission, which was abolished by the last Legislature, had been composed of four physicians

and one lawyer, probably something constructive would have been accomplished. There has been less progress in the field of narcotic addiction than in any other branch of medicine. Considerable research is indicated. Chemical blood analyses, basal metabolism, studies of shock upon sudden withdrawal, and a careful comparison of the several institutional methods of treatment are all indicated, and their results checked against a number of patients given the ambulatory treatment, in an institution, so as to guard against deception. We will then have a working basis, can standardize our methods, and know definitely the percentage of cures in institutional as compared to ambulatory cases. If the institutional method offers a vastly larger number of actual cures, let us gradually adopt that method, as soon as we can get the necessary number of institutions. There will be, of course, a vast number of institutions required. In the meantime, the other cases must be taken care of in some way, and let us give them the ambulatory treatment, under close supervision. Give them identification cards, force them to be registered, photograph them, even finger-print them, and make it impossible for them to obtain doses from more than one doctor. Give all peddlers heavy jail sentences. Insist that physicians and druggists act in good faith—that is, actually try to cure the addict by a reduction of the dose, and that druggists take pains to see that no deception upon the part of the addict, such as getting it for a friend, takes place. Thus Herz is sure we would obtain encouraging results.

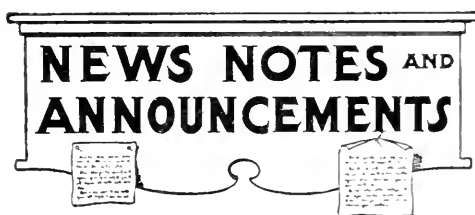
Recently there appeared an article in one of our leading medical journals by a physician who is a member of the narcotic control committee of our State Medical Society. He strongly advocates institutional methods, as he has a right to do. He attempts to back his arguments in favor of immediate complete withdrawal by a statement of a convicted felon, not an addict, who states that drug addicts do not suffer when complete withdrawal is practiced. Anybody who has made even a superficial study of this type of case knows that this is untrue, that they do suffer, and suffer cruelly. They have abdominal cramps, pains in the back and legs, diarrhea, vomiting, the skin breaks out in a cold sweat, the entire body trembles, they frequently faint, and a few cases of actual death have occurred. The addict is in such distress of mind and body that he would even commit a crime, altho it be his first one, in order to obtain his supply of drug. Shall we as scientific men accept the word of a convicted felon with no medical training, or shall we accept the word of Sir William Osler, who states: "The sufferings of the patients are usually very great, more particularly the abdominal pains, sometimes nausea and vomiting, and the distressing restlessness." Osler, by the way, advocates gradual withdrawal. The physician who wrote the article objected to, as Herz says, has every right to his own opinion. He has, however, no right to tell the rest of his profession that his is the only method they should use, while also admitting that after his method the majority have relapses. Furthermore, he has no right to slur those members

of our profession that try to cure addicts by methods different from his own, unless he can prove their method valueless. His *ipse dixit* does not suffice. Herz says he does not speak from personal motives, as he no longer treats drug addicts. Not that they do not need treatment, or that he has not the right to treat them, but because the "Pussy-foot Johnsons" of the medical profession have so succeeded in terrorizing their brother practitioners that it is not considered "respectable" to treat these unfortunate patients, and a physician, who from humanitarian motives treats them, frequently has his motives misconstrued, and is sent to jail by twelve laymen, misled by the eloquence of another layman—the prosecuting attorney. When he did treat addicts it was not for the money—nine times out of ten he treated them free and sometimes actually lent them money. Our friend (?) who wrote the article before referred to is trying to insinuate that all physicians who treat addicts are human vultures and that they are treating them only to extort large fees and know they are not helping them. This is a vile slander against a noble profession. The author knows physicians who are practicing medicine without ever prescribing narcotics or dispensing them. They do so, not because they never need to, but in order to avoid the amount of keeping of records entailed, and because they do not even want a faint suspicion of prescribing for addicts on account of the odium attached to it. Cases of painful incurable carcinoma, they refuse to treat. That is carrying circumspection to extremes, but that is one of the results when an entire noble profession is treated with suspicion. Some of our would-be reformers would even pass laws prohibiting the prescribing of narcotics in cases of true pain. That law may still come. More surprising things than that have happened.

In regard to alcohol, it was perfectly justifiable to abolish the saloon. It was also advisable to stop strong liquors, because a certain percentage of our population abused them. It was not justifiable to stop beer and light wines. Drunkenness is a curse. The indulgence in moderation of slightly alcoholic beverages, is not only harmless, but often beneficial. Alcohol is a protein sparer and a preventer of tissue waste. It is, therefore, indicated in many fevers and many wasting diseases. Beer is a harmless beverage, a digestant, and a true food. It is rich in carbohydrates, dextrins, and also vitamins from yeast, besides being a stomachic on account of its malt and hops. Its pleasant taste stimulates the gastric juice and aids digestion. Williams recommends it as a galactagogue. Furthermore, it is our most harmless soporific. In cases where beer is ineffective, ale or stout will rarely fail. It is entirely devoid of depression the next morning, such as all other soporifics and sedatives, even bromides, give. By eliminating its use we are forced against our wishes to prescribe more harmful medicaments.

Two Hundred Children Given "New Eyes."
Out of 100,000 pupils in the New York public

schools who fail to be promoted each year, 50,000 have defective eyesight, 25,000 are suffering the humiliation of being "left-backs" simply because they are desperately in need of glasses. The Junior Red Cross has established a \$5,000 fund to aid parents in buying glasses for their children. Already 200 children have been given "new eyes," according to a report issued by a local chapter of the Red Cross. The fund is self-sustaining, in that the children pay back the cost of their glasses on the instalment plan. Every child who evidently does not see well, and every child who is cross-eyed, should be examined at three or four years of age. Every child is entitled to an examination of the eyes before beginning school work, no matter what the age. The vision should be tested every year, whether glasses are worn or not, in order to discover any defects that may be developing or any increase in defects known to exist.



Gorgas Memorial to Be Established in Panama.—Of particularly deep interest to all members of the medical profession and to all others interested in questions of public health and sanitation is the recent announcement of the plans of the board of directors of the Gorgas Memorial for the establishment of a Memorial Institution in the city of Panama for research and the extension of means of prevention of tropical diseases.

Anyone who has seen the old Panama at the time of the abandonment by the French of the work of the first canal, involving so much wasted energy, the loss of thousands of lives and some hundreds of millions of dollars, could not but be struck with the present aspect of Panama, its splendid sanitation, its beautiful cities, its five hospitals, and, above all, by the completion of the Panama Canal itself, making Panama one of the most beautiful and salubrious spots in the world.

It is well known to members of the medical profession that the accomplishment of this great work and the sanitary regeneration of Panama are due to the efforts of the late William C. Gorgas, surgeon-general of the United States army, and to his efforts, more than to any other, success for the work must be accredited.

Coupled with his earlier work in Cuba, the accomplishment of General Gorgas in conquering yellow fever and malaria and conclusively demonstrating the fact that health, even in the tropics, is a purchasable commodity has sent forth his fame thruout the world. Perhaps no single life has done more for the good and well-being of humanity, and his great attachment

for Panama has made the proposed memorial to carry on the work he so ably started, the most practical tribute which could be conceived to his memory.

The honor for the conception of this idea and of bringing it into actual existence belongs to Dr. Belisario Porras, the president of the Republic of Panama, who in the name of his government has tendered the site, a building, and all required equipment, valued in all at approximately \$500,000. At the request of Dr. Porras, Admiral Braisted, formerly surgeon-general of the United States Navy, with the cooperation of others equally interested in making this memorial possible, incorporated the Gorgas Memorial Institute for the purpose, in addition to directing the scientific work, of raising an endowment fund of five million dollars for maintenance. The following officers and directors were elected:

President, Rear Admiral W. C. Braisted, U. S. Navy (Retired).

Vice-President, Dr. Franklin Martin, Secretary-General American College of Surgeons.

Directors: Dr. Belisario Porras, president of the Republic of Panama (Founder); Dr. A. S. Boyd, chief of surgical service, Santo Tomas Hospital, Panama; Surgeon-General Hugh S. Cumming, United States Public Health Service; Surgeon-General Merritt W. Ireland, United States Army; Honorable John Bassett Moore, judge of the International Court of Justice, The League of Nations; Honorable Leo S. Rowe, director-general, Pan-American Union; Surgeon-General E. R. Stitt, United States Navy.

Dr. Richard P. Strong of Harvard University, chosen to head the scientific board, will be assisted by Admiral E. R. Stitt and Lieutenant-Colonel J. F. Siler. Other members of the scientific board will be announced at an early date.

The Advisory Board, of which Secretary of State Hughes is honorary chairman, consists of the diplomatic representatives of all the Central and South American countries and representative committees of the leading national medical and surgical associations, public health groups, and many southern societies by which Gorgas was beloved.

The proposed memorial will be built adjacent to the new two million dollar Santo Tomas Hospital, and the use of its complete facilities has been tendered the Gorgas Memorial to aid in the launching of the work.

The memorial building itself will consist of a dignified classic structure patterned after the lines of the Pan-American Union in Washington, D. C. It will house the laboratories and provide facilities for the teaching of students from the various tropical countries and from our own leading schools of tropical medicine, such as Harvard, Johns Hopkins, and the University of California.

In commenting upon the field of work before the Institute, Admiral Braisted stated that among the diseases which will be studied in addition to yellow fever and malaria, are dengue, pellagra, beriberi, leprosy, cholera, and the various mycoses. It is the consensus of opinion that tremendous advances can and will

be made thru the efforts of the research work in this field.

The tropics, which are so prolific in vegetation of every kind, have been equally fertile in the development of all types and kinds of dread diseases, which tended to make them unsuited and impossible of habitation until careful sanitation made them safe. They then can become the most desirable, the most attractive, and the most prosperous of abiding places. This very fact has made the city of Panama extremely desirable as a home for the work to be undertaken.

The humanitarian benefits to accrue from the establishment of this wonderful tribute to General Gorgas are almost beyond conception. Its complete success means the fulfillment of General Gorgas' greatest desire—that of eliminating these devastating tropical diseases, and at the same time is fitting recognition of the worldwide importance that the profession of medicine played in the construction of the Panama Canal.

Dietitians Needed in U. S. Public Health Service.—The United States Civil Service Commission states that there is need for a considerable number of dietitians in the Public Health Service at hospitals thruout the United States and that until further notice it will receive applications for such positions.

The basic entrance salary offered is \$960 a year with possible promotion to the basic pay of \$1,344 a year. To all salaries there is added the increase of \$20 a month granted by Congress. In addition, quarters and subsistence are furnished free by the government.

Applicants are not required to undergo a written examination, but are rated upon the subjects of general education, weighted at 30%, and technical training and experience, weighted at 70%.

Full information and application blanks may be obtained by communicating with the United States Civil Service Commission, Washington, D. C., or with the secretary of the local board of civil service examiners at the post office or customs house in any city.

Japanese soldiers have increased two inches in height on an average since meat was included in their rations.

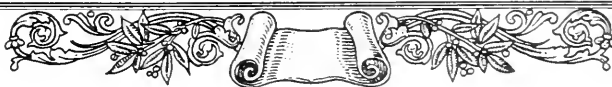
Special Proctological Number.—The next number of the *Journal* will be a special issue devoted to proctology. It will contain the papers read at the 22nd annual meeting of the American Proctologic Society in Boston, June 3-6, 1921.

Chinese Made First Dictionary.—The first dictionary was a dictionary of the Chinese language, containing about 40,000 characters. It was completed by Pa-out-She, who lived about 1100 B. C.

AMERICAN MEDICINE



THE JOHNS HOPKINS HOSPITAL



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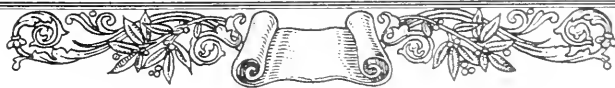
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THE "REAL THING" IN OPEN-AIR TREATMENT IN THE
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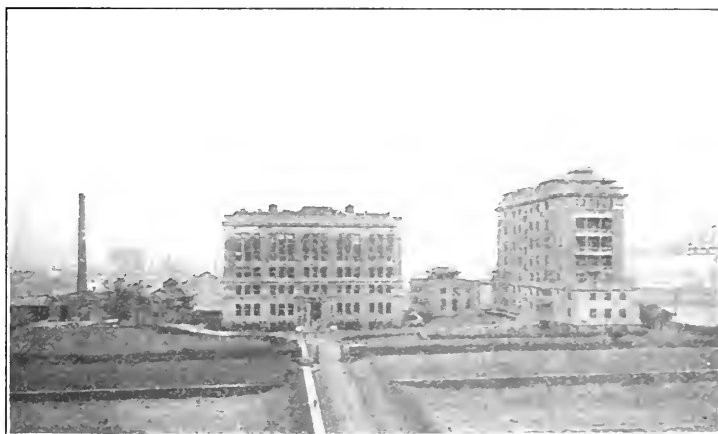
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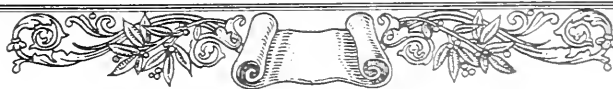
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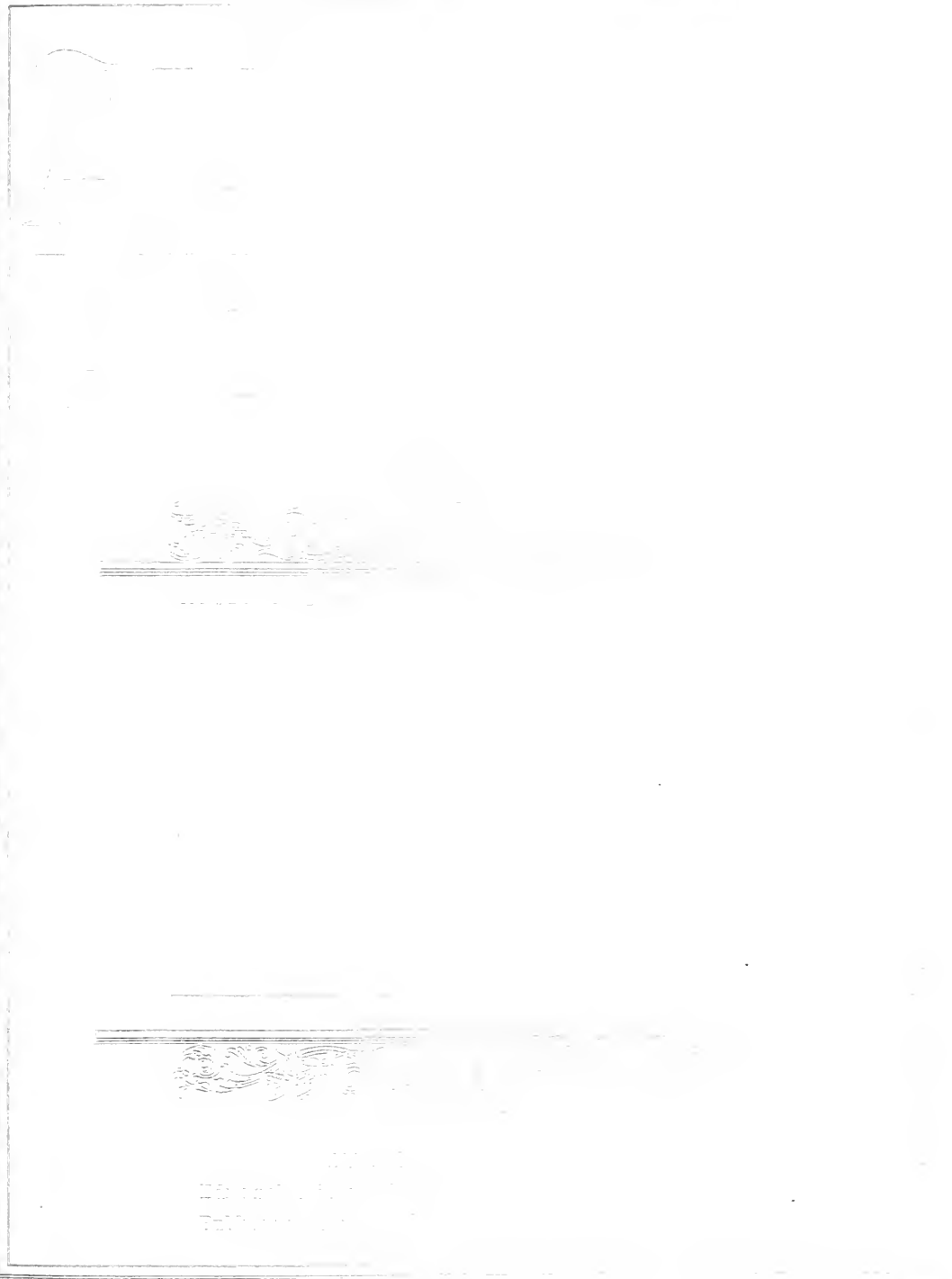
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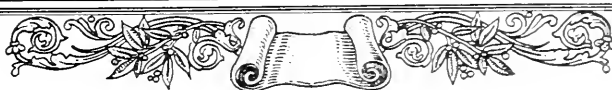


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Despite the popularity of arsenic compounds in the treatment of syphilis, the conviction is being more and more expressed that mercury and iodides cannot be discarded.

“Mixed treatment” is coming back into general use. Experience points unerringly to the necessity for its employment in order to get most satisfactory results.

PIL MIXED TREATMENT (CHICHESTER)

enables the physician to prescribe accurately and thus obtain maximum therapeutic results.

It is uniform in composition.

Its ingredients are pure and standardized.

Combined iodide and mercury action is secured by the giving of one combination. This makes for economy and ease of administration.

The dosage can be accurately adjusted to each individual case.

Buccal, gastric or intestinal disturbance is, as a rule, conspicuous by its absence.

PIL MIXED TREATMENT (CHICHESTER) is put up in bottles only. Price \$1.00.

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“MEDICINE IS AN EXACT SCIENCE —ON PAPER ONLY!”

Every general practitioner of medicine is called upon to treat Syphilis occasionally. He cannot depend upon the use of arsenicals alone. In most cases, “mixed treatment” the giving of mercury and iodides is required to get satisfactory results.

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accurately and successfully meets the indications and secures definite action. Important advantages:

Ready solubility of mercury in combination with Potassium Iodide. Avoidance of gastric, buccal or intestinal disturbance. Easy administration, can be taken at any time, anywhere. Economical, both drugs in one combination. Accurate adjustment of dosage to each individual case. Full physiological action—assured by parity of content. Secrecy—patient or friends do not know nature of medicine.

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The penchant for depending upon the use of arsenicals alone in the treatment of syphilis, is giving way before the realization that in most cases at least, iodide and mercury are indispensable and absolutely necessary.

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The ready solubility of the mercury in combination with Potassium Iodide is assured, full physiological effect is obtained without buccal, gastric or intestinal disturbance, because the dosage can be actively determined for and adapted to each individual case. Economy is secured by the use of one preparation. Secrecy is maintained, the patient or friends do not know the nature of the medicine prescribed. PIL MIXED TREATMENT (CHICHESTER) needs no introduction to the thousands of practical physicians who have for years employed it.

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- Health Centers; Standardized State Medicine and Group Organizations—By Harvard Holmes, M. D., Chicago, Ill.
- How to Palpate Arteries to Determine Arterial Tension and Blood Pressure—By George Edward Barnes, B. A., M. D., Heidelberg, N. Y.
- Accidents and Complications Following Uterine Operations—By Charles F. Drueck, M. D., Chicago, Ill.
- Pellidism and Sacratama in Czechoslovakia—By Ralph Herz, M. D., New York City.
- Vegetable Oils in Infancy and Young Children—By George Dow Scott, M. D., New York City.
- Which, War or Peace, Man's Finest Goal?—By Perry Marshall, M. D., New Salem, Mass.
- Ametropia as a Cause of Various Diseases—By Edward J. Bernstein, M. D., Detroit, Mich.
- Suicide—Meitline vs. Law—Dr. Loretz.
- Editorials.

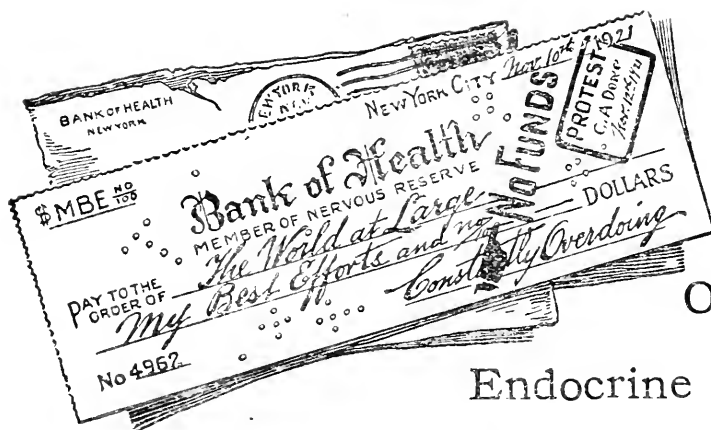
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An Overdraft ON THE Endocrine Balance

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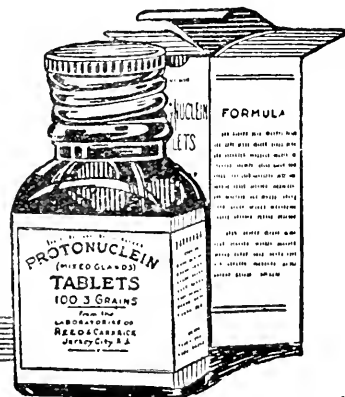
The use of PROTONUCLEIN rapidly overcomes morbid conditions of the nervous system, promotes nutrition and restores physiological balance—and *physiological balance means health and physical well-being*—by correcting insufficiencies of the internal secretory system.

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